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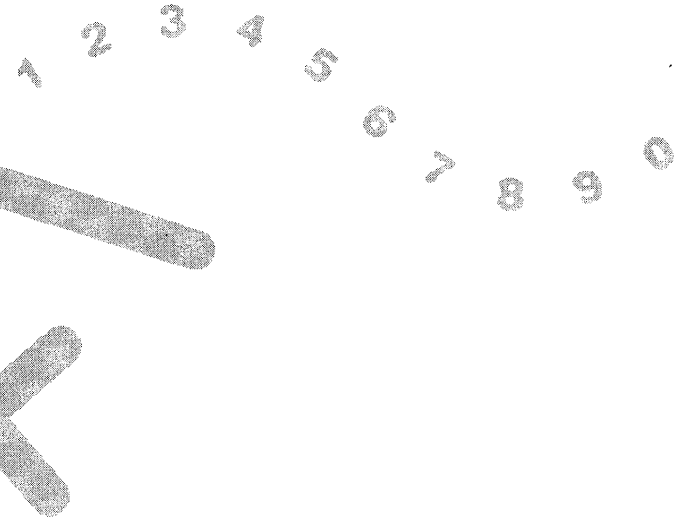
Middle School Math with Pizzazz!™

Basic Facts; Place Value and Numeration; Operations with Whole Numbers



Mc Graw Hill Wright Group

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NOTES FROM THE AUTHORS

MIDDLE ***SCHOOL*** *MATH WITH PIZZAZZ!* is a series of five books designed to provide practice with skills and concepts taught in today's middle school mathematics programs. The series uses many of the same puzzle formats as ***PRE-ALGEBRA*** *WITH PIZZAZZ!* and ALGEBRA *WITH PIZZAZZ!* both published by Creative Publications.

We believe that mastery of math skills and concepts requires both good teaching and a great deal of practice. Our goal is to provide puzzle activities that make this practice more meaningful and effective. To this end, we have tried to build into these activities three characteristics:

1. **KNOWLEDGE OF RESULTS.** Various devices are used in the puzzles to tell students whether or not their answers are correct. Feedback occurs immediately after the student works each exercise. For example, if a particular answer is not in the code or scrambled answer list, the student knows it is incorrect. He or she can then try again or ask for help. Additional feedback and reinforcement occurs when the student finds a puzzle solution that is appropriate. This immediate knowledge of results benefits students and also teachers, who no longer have to spend time confirming correct answers.

2. **A MOTIVATING GOAL FOR THE STUDENT.** The puzzles are designed so that students will construct a joke or unscramble the answer to a riddle in the process of checking their answers. The humor operates as an incentive, because the students are not rewarded with the punch line until they complete the exercises. While students may decry these jokes as "dumb" and groan loudly, our experience has been that they enjoy the jokes and look forward to solving the puzzles. The humor has a positive effect on class morale. In addition to humor, the variety and novelty of procedures for solving the puzzles help capture student interest. By keeping scrambled answer lists short and procedures simple, we have tried to minimize the time spent on finding answers or doing other puzzle mechanics.

3. **CAREFUL SELECTION OF TOPICS AND EXERCISES.** The puzzles within each topic area are carefully sequenced so that each one builds on skills and concepts previously covered. The sequence of exercises within each puzzle is designed to guide students in incremental, step-by-step fashion toward mastery of the skill or concept involved. A primary goal is the development of problem-solving ability. In order to solve problems, students need not only rules and strategies but also a meaningful understanding of basic concepts. Some puzzles in this series are designed specifically to build concepts. Other puzzles, especially those for estimation, also help deepen students' understanding by encouraging them to look at numbers as quantities rather than just as symbols to be manipulated. For puzzles specifically keyed to problem solving, we have tried to write problems that are interesting and uncontrived. We have included extra information in some problems, and have also mixed problem types within sets, so that the problems cannot be solved mechanically.

In addition to these efforts to make the puzzles effective, we have tried to make them easy to use. The topic for each puzzle is given both at the bottom of the puzzle page and in the Table of Contents on pages iv and v. Each puzzle is keyed to a specific topic in recent editions of leading middle school textbooks. Each puzzle requires duplicating only one page, and many of them provide space for student work. Finally, because the puzzles are self-correcting, they can eliminate the task of correcting assignments.

We hope that both you and your students will enjoy using these materials.

Steve and Janis Marcy

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NOTES ABOUT USING THE PUZZLES

The selection of topics for ***MIDDLE SCHOOL MATH*** *WITH PIZZAZZ!* reflects recent thinking about what is important in an updated middle school math program. Virtually every puzzle can be matched with a particular lesson in recent editions of popular textbooks. After students have received instruction in a topic and worked some sample exercises, you might assign a puzzle along with a selection of textbook exercises.

Students in the middle grades should begin to classify many mathematics problems and exercises into one of three categories:

1. **MENTAL MATH.** Problems for which an exact answer can be obtained mentally.

2. **ESTIMATION.** Problems for which an approximate answer, obtained mentally, is sufficient.

3. **TOOLS.** Problems requiring an exact answer that cannot be obtained mentally. Students will use paper and pencil and/or calculators.

Some of the puzzles in this series focus specifically on one of these categories. A few puzzles actually present problems in all three categories and ask the student to make the classification.

By the time they reach the middle grades, students should generally be permitted to use calculators for problems that require tools (Category 3). The most common argument against calculator use is that students will become overly dependent on them. This concern, though, appears to be based primarily on fear that students will rely on the calculator for problems in Categories 1 and 2, those that should be done mentally.

To solve problems in Category 3, calculators are wonderful tools for computing. Students may also need paper and pencil to make diagrams, write equations, record results, etc., so they will need both kinds of tools. On the other hand, students should not need calculators for problems in Categories 1 and 2, problems that call for mental math or estimation. Skills in these areas are essential not only in daily life but also for the intelligent use of the calculator itself. The puzzles in this series reflect these three categories and the distinction between them.

When students do use calculators, you may want to have them write down whatever numbers and operations they punch in and their answers. This makes it easier to identify the cause of any error and assists in class management. Even when students do mental math or estimation puzzles, have them write a complete list of answers and, where appropriate, the process used to get the answers. Encourage students to write each answer before locating it in the answer list. Students should complete *all* the exercises even if they discover the answer to the joke or riddle earlier.

One advantage of using a puzzle as an assignment is that you can easily make a transparency of the page and display the exercises without having to recopy them on the board. You can then point to parts of a problem as you discuss it. It is often helpful to cut the transparency apart so that you can display exercises on part of the screen and write solutions on the remaining area.

Other books by Steve and Janis Marcy
published by Creative Publications

Pre-Algebra With Pizzazz! in a Binder
Covers most topics in a pre-algebra curriculum

Algebra With Pizzazz! in a Binder
Covers most topics in a first-year algebra curriculum

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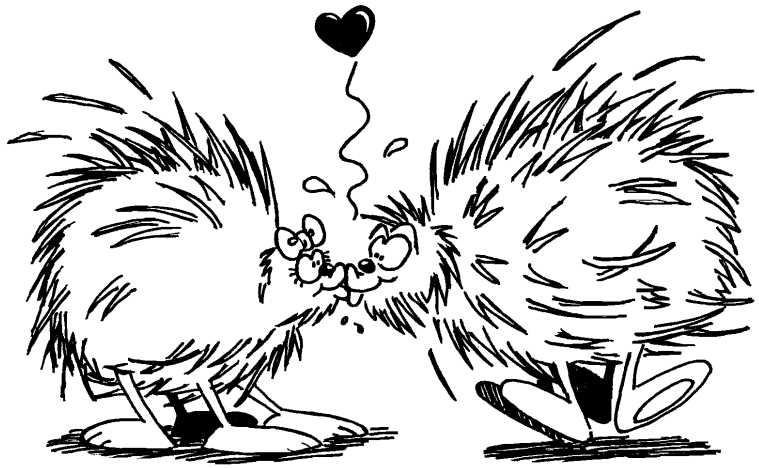
What Sound Do Two Porcupines Make When They Kiss?



This multiplication table contains exactly 54 correct answers. The others are incorrect. Shade in each box that contains a CORRECT answer. Be sure to use pencil so you can erase if necessary.

×	2	7	0	6	8	4	9	3	1	5	7	10	9	6
4	8	28	0	35	32	12	36	10	4	20	30	40	38	24
7	14	49	0	40	56	25	63	15	7	35	45	70	62	42
9	18	48	0	55	72	30	81	18	9	46	60	90	81	54
6	12	44	0	20	48	30	54	17	6	32	25	60	54	36
8	16	56	0	49	64	32	72	16	8	40	61	80	81	48
3	6	21	0	12	24	12	27	12	3	15	24	30	36	18

Get the Message

Each row contains two correct and two incorrect statements. Circle the word above each correct statement. When you finish, read the circled words and you will *get* the message!

1	DID	SOMEONE	FINALLY	HAS
	$(5 \times 6) + 4 = 32$	$(3 \times 8) + 7 = 31$	$(4 \times 4) - 2 = 14$	$(9 \times 8) - 9 = 62$
2	HIT	WROTE	BOOKS	A
	$(8 \times 6) + 5 = 49$	$(7 \times 5) + 6 = 41$	$(4 \times 7) - 8 = 22$	$(9 \times 3) - 3 = 24$
3	BOOK	REPORT	ABOUT	THAT
	$(6 \times 6) + 9 = 45$	$(3 \times 6) + 5 = 21$	$(8 \times 5) - 7 = 37$	$(2 \times 9) - 4 = 14$
4	EXPLAINS	HAS	HOW	WHY
	$(5 \times 1) + 8 = 13$	$(7 \times 8) + 6 = 61$	$(6 \times 7) - 9 = 33$	$(8 \times 9) - 3 = 74$
5	SOME	PEOPLE	TO	FIX
	$(5 \times 5) + 1 = 28$	$(3 \times 7) + 5 = 24$	$(4 \times 8) - 7 = 25$	$(9 \times 7) - 4 = 59$
6	BROKEN	CLOCKS	WHEN	AND
	$(7 \times 7) + 3 = 54$	$(6 \times 9) + 6 = 60$	$(5 \times 9) - 8 = 39$	$(8 \times 8) - 2 = 62$
7	OTHER	IT	IS	VERY
	$(0 \times 3) + 7 = 11$	$(9 \times 4) + 9 = 45$	$(5 \times 7) - 6 = 29$	$(4 \times 6) - 4 = 26$
8	ABOUT	ONE	GOOD	TIME
	$(2 \times 5) + 3 = 13$	$(9 \times 9) + 8 = 86$	$(7 \times 6) - 7 = 37$	$(3 \times 4) - 1 = 11$

What Do Retired Coin Dealers Like To Do?

Find the answer to each exercise in the set of boxes under it.
Write the letter of the exercise in the box containing the answer.

(T) $(6 \times 5) + (2 \times 4)$	(S) $(8 \times 4) + (7 \times 7)$	(D) $(9 \times 8) - (3 \times 2)$	(U) $(9 \times 7) - (6 \times 6)$
(A) $(3 \times 7) + (4 \times 6)$	(T) $(4 \times 9) + (8 \times 7)$	(N) $(3 \times 8) - (4 \times 5)$	(A) $(8 \times 9) - (5 \times 3)$
(U) $(7 \times 9) + (2 \times 8)$	(J) $(8 \times 8) + (2 \times 5)$	(O) $(9 \times 6) - (7 \times 4)$	(N) $(4 \times 8) - (9 \times 3)$
(I) $(9 \times 5) + (6 \times 3)$	(S) $(2 \times 7) + (6 \times 0)$	(D) $(5 \times 8) - (8 \times 2)$	(R) $(9 \times 9) - (1 \times 1)$

74	79	81	38	20	14	63	92	8	45	80	26	27	5	66	78	57	4	24

(O) $(6 \times 8) + (5 \times 9)$	(R) $(5 \times 4) + (\circ \times 3)$	(I) $(6 \times 9) - (8 \times 5)$	(S) $(9 \times 9) - (4 \times 7)$
(L) $(7 \times 6) + (4 \times 4)$	(K) $(4 \times 2) + (\overset{\circ}{\underset{\circ}{}} \times 6)$	(E) $(7 \times 5) - (3 \times 6)$	(L) $(8 \times 6) - (7 \times 3)$
(E) $(9 \times 4) + (7 \times 8)$	(V) $(6 \times 6) + (\circ \times 8)$	(O) $(8 \times 7) - (5 \times 5)$	(M) $(7 \times 7) - (3 \times 5)$
(A) $(2 \times 6) + (7 \times 9)$	(T) $(9 \times 0) + (5 \times 6)$	(D) $(6 \times 7) - (9 \times 2)$	(D) $(6 \times 4) - (4 \times 6)$

	30	75	58	56	41	93	100	92	32	7	31	27	24	62	0	14	34	17	53

CRYPTIC QUIZ

1. Where do Martians leave their spaceships?

144	71	81	140	144	107	142	121	135	34	151	93	116	71	116	86	107	124

2. Where do Cheerios® go every day at noon?

86	144	71	78	71	86	81	129	85	135	100	84

TO DECODE THE ANSWERS TO THESE QUESTIONS:

Find the answer to each exercise in the code. Each time the answer appears, write the letter of that exercise above it.

(G) $(3 \times 4) + (2 \times 5) + (6 \times 2)$

(U) $(8 \times 3) + (5 \times 9) + (4 \times 4)$

(E) $(9 \times 8) + (2 \times 7) + (6 \times 5)$

(C) $(3 \times 9) + (7 \times 7) + (4 \times 6)$

(I) $(9 \times 6) + (8 \times 4) + (5 \times 7)$

(A) $(3 \times 7) + (7 \times 6) + (9 \times 9)$

(S) $(8 \times 7) + (5 \times 4) + (6 \times 8)$

(H) An auto mechanic bought 6 screwdrivers at $8 each. He also bought 4 wrenches at $9 each. What was the total cost?

(K) $(9 \times 7) + (8 \times 8) + (3 \times 5)$

(O) $(6 \times 3) + (7 \times 4) + (5 \times 8)$

(M) $(9 \times 4) + (8 \times 6) + (3 \times 3)$

(L) $(6 \times 6) + (8 \times 9) + (7 \times 3)$

(P) $(4 \times 8) + (7 \times 9) + (9 \times 5)$

(N) $(7 \times 8) + (5 \times 5) + (6 \times 9)$

(R) $(3 \times 6) + (8 \times 5) + (7 \times 7)$

(T) In a 2-week period, the mechanic worked 8 hours a day for 7 days and 5 hours a day for 3 days. How many hours did he work altogether?

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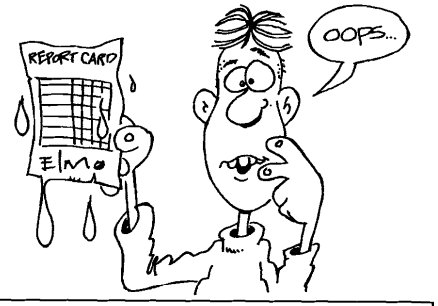
Jest the Facts:

Why Was Elmo's Report Card AllWet?



Find the answer to each exercise in the appropriate set of answers and notice the letter next to it. Write this letter in the box containing the number of the exercise.

(1) $20 \div 5$
(2) $14 \div 2$
(3) $56 \div 8$
(4) $48 \div 6$
(5) $27 \div 9$
(6) $4 \div 4$
(7) $6\overline{)36}$
(8) $5\overline{)10}$
(9) $8\overline{)40}$
(10) $7\overline{)63}$
(11) Ms. Shoe made 36 cookies and divided them equally among her 9 kids. How many cookies did each kid get?

(12) $54 \div 6$
(13) $64 \div 8$
(14) $15 \div 3$
(15) $28 \div 7$
(16) $72 \div 9$
(17) $30 \div 5$
(18) $4\overline{)32}$
(19) $9\overline{)81}$
(20) $6\overline{)18}$
(21) $4\overline{)16}$
(22) **A class** has 13 boys and 15 girls. When divided into 4 teams of equal size, how many students are on each team?

(23) $36 \div 4$
(24) $35 \div 5$
(25) $54 \div 9$
(26) $24 \div 8$
(27) $56 \div 7$
(28) $12 \div 3$
(29) $4\overline{)24}$
(30) $9\overline{)63}$
(31) $6\overline{)12}$
(32) $7\overline{)49}$
(33) In 42 days, Elmo will celebrate his birthday. He will be 12 years old. How many weeks until his birthday?

Answers 1–11:

(H)	1	(A)	4	(L)	7
(S)	2	(G)	5	(O)	8
(F)	3	(I)	6	(R)	9

Answers 12–22:

(I)	1	(W)	4	(N)	7
(T)	2	(S)	5	(E)	8
(O)	3	(R)	6	(D)	9

Answers 23–33:

(S)	1	(C)	4	(E)	7
(V)	2	(A)	5	(W)	8
(O)	3	(L)	6	(B)	9

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33

Why Did the Writer Move From the Third Floor to the Fifth?

Do each exercise below and find your answer in the Code Key. Notice the letter above it. Write this letter in the box at the bottom of the page containing the number of the exercise.

CODE	K	M	Y	F	L	A	D	H	W	R	E	O	T	S	N	I	G
KEY	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

1. (8 ÷ 2) + (35 ÷ 7)

2. (20 ÷ 4) + (21 ÷ 3)

3. (42 ÷ 6) + (27 ÷ 9)

4. (36 ÷ 6) + (8 ÷ 8)

5. (45 ÷ 5) + (48 ÷ 8)

6. (10 ÷ 2) + (81 ÷ 9)

7. (63 ÷ 7) + (24 ÷ 3)

8. (16 ÷ 4) + (56 ÷ 8)

9. (30 ÷ 5) + (54 ÷ 9)

10. (25 ÷ 5) + (18÷ 6)

11. (36 ÷ 4) + (36 ÷ 9)

12. (9 ÷ 3) + (16 ÷ 8)

13. (49 ÷ 7) + (15 ÷ 5)

14. (48 ÷ 6) + (45 ÷ 9)

15. (8 ÷ 4) + (72 ÷ 8)

16. (7 ÷ 7) + (1 ÷ 1)

17. (64 ÷ 8) + (27 ÷ 3)

18. (54 ÷ 6) + (35 ÷ 5)

19. (36 ÷ 4) + (9 ÷ 1)

20. (30 ÷ 6) + (56 ÷ 7)

21. (42 ÷ 6) + (18 ÷ 2)

22. (24 ÷ 4) + (40 ÷ 5)

23. (15 ÷ 3) + (32 ÷ 8)

24. (21 ÷ 7) + (81 ÷ 9)

25. (28 ÷ 4) + (56 ÷ 7)

26. (42 ÷ 7) + (5 ÷ 5)

27. (0 ÷ 8) + (12 ÷ 4)

28. (72 ÷ 9) + (24 ÷ 6)

29. (12 ÷ 2) + (63 ÷ 9)

30. (36 ÷ 6) + (0 ÷ 4)

31. (0 ÷ 1) + (64 ÷ 8)

32. (63 ÷ 7) + (18 ÷ 3)

33. (32 ÷ 4) + (54 ÷ 9)

34. (40 ÷ 8) + (40 ÷ 5)

35. (49 ÷ 7) + (20 ÷ 5)

36. (24 ÷ 8) + (6 ÷ 6)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

MIDDLE SCHOOL MATH WITH PIZZAZZ! BOOK A
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What Can You Say About Flat Bicycle Tires?

Find the answer to each exercise in the set of answers under the exercise. Cross out the letter above each answer. When you finish, the answer to the title question will remain!

(1) $(12 \div 3) + (35 \div 7) + (6 \div 2)$

(2) $(42 \div 6) + (24 \div 3) + (54 \div 9)$

(3) $(56 \div 8) + (28 \div 4) + (45 \div 5)$

(4) $(54 \div 6) + (18 \div 3) + (49 \div 7)$

(5) $(72 \div 8) + (27 \div 9) + (15 \div 3)$

(6) $(7 \div 7) + (64 \div 8) + (36 \div 4)$

(7) $(32 \div 8) + (36 \div 6) + (24 \div 8)$

(8) Osgood is having a party. He plans to send 20 invitations. If invitations are sold in packs of 5, how many should he buy?

(9) $(24 \div 6) + (40 \div 5) + (18 \div 9)$

(10) $(25 \div 5) + (63 \div 7) + (30 \div 6)$

(11) $(21 \div 3) + (8 \div 2) + (81 \div 9)$

(12) $(48 \div 8) + (56 \div 7) + (20 \div 5)$

(13) $(18 \div 6) + (72 \div 8) + (40 \div 8)$

(14) $(42 \div 7) + (0 \div 2) + (16 \div 4)$

(15) $(35 \div 5) + (63 \div 9) + (48 \div 6)$

(16) Osgood decides he needs **24** hot dogs and 6 bags of potato chips for his party. If hot dogs come in packs of 8, how many packs should he buy?

(17) $(72 \div 9) + (14 \div 7) + (30 \div 5)$

(18) $(24 \div 4) + (32 \div 4) + (28 \div 7)$

(19) $(36 \div 9) + (15 \div 5) + (56 \div 8)$

(20) $(42 \div 6) + (12 \div 4) + (0 \div 6)$

(21) $(20 \div 4) + (45 \div 9) + (21 \div 7)$

(22) $(27 \div 3) + (16 \div 8) + (5 \div 5)$

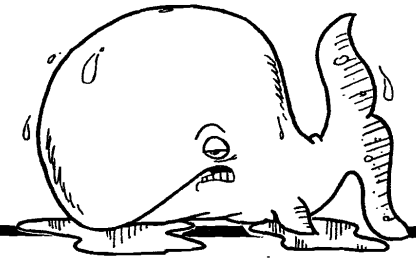
(23) $(49 \div 7) + (64 \div 8) + (81 \div 9)$

(24) Osgood decides to serve soda in 12-ounce cans. He thinks he will need 36 cans. How many 6-packs of soda should he buy?

F	B	T	E	P	L	O	I	W	G	T	O	R	I	A	B	S	N	T	E	E	I	R	O	A	S	X	D	G	M
4	23	6	12	17	13	21	18	15	22	10	5	18	14	17	26	3	22	19	20	13	24	14	12	8	16	10	9	6	18

TOPIC Division Facts

How Do You Weigh A Whale?



Do each exercise and find your answer at the bottom of the page. Write the letter of the exercise in the box containing the answer.

(T) $(20 \div 4) \times (18 \div 6)$	(O) $(5 \times 7) \div (40 \div 8)$	(H) $(36 \div 4) \times (35 \div 7)$
(I) $(45 \div 9) \times (28 \div 7)$	(I) $(8 \times 8) \div (4 \times 2)$	(T) $(16 \div 2) \times (30 \div 5)$
(A) $(56 \div 8) \times (36 \div 6)$	(E) $(6 \times 9) \div (3 \times 3)$	(L) $(28 \div 4) \times (81 \div 9)$
(E) $(63 \div 9) \times (21 \div 7)$	(N) $(3 \times 4) \div (42 \div 7)$	(S) $(25 \div 5) \times (56 \div 7)$
(O) $(48 \div 6) \times (18 \div 2)$	(A) $(7 \times 7) + (6 \times 8)$	(W) $(24 \div 3) \times (42 \div 6)$
(A) $(32 \div 8) \times (0 \div 5)$	(T) $(3 \times 9) + (7 \times 8)$	(G) $(4 \times 4) + (72 \div 8)$
(I) $(4 \times 6) \div (72 \div 9)$	(E) $(6 \times 5) + (8 \times 3)$	(K) $(49 \div 7) + (4 \times 8)$
(H) $(6 \times 6) \div (42 \div 7)$	(A) $(27 \div 9) \times (48 \div 8)$	(T) $(20 \div 5) \times (54 \div 6)$

(T) Section A of a theater has 9 rows with 8 seats in each row. Section B has 4 rows with 7 seats in each row. How many seats are in these sections altogether?

(W) Smedley has two rolls of crepe paper, one with 30 yards and one with 40 yards. If he cuts both rolls into 5-yard streamers, how many streamers will he have?

48	42	39	6	47	3	83	94	15	72	51	97	37	56	45	0	63	21	23	14	54	8	25	4	17	40	100	18	36	20	7	2

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What Do You Call a Popular Perfume?

Solve each problem and find your answer in the rectangle below. Cross out the box that contains your answer. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

1. Larry bought 7 medium pizzas from Pizza Heaven.
   a. How many pieces did he get?
   b. What was the total cost?

2. Sherry bought 1 small pizza and 1 medium pizza.
   a. How many pieces did she get?
   b. What was the total cost?

3. Perry bought 2 small and 3 large pizzas.
   a. How many pieces did he get?
   b. What was the total cost?

4. Mary bought 6 medium and 8 large pizzas.
   a. How many pieces did she get?
   b. What was the total cost?

5. Barry bought 9 small and 4 medium pizzas.
   a. How many pieces did he get?
   b. What was the total cost?

Pizza Heaven		
Size	Number of Pieces	Price
small	4	$5
medium	6	$7
large	8	$9

6. Kerry bought 6 small pizzas for a group of 8 people.
   a. How many pieces did she get?
   b. If divided equally, how many pieces will each person get?

7. Jerry bought 5 medium and 3 large pizzas for a group of 9 people.
   a. How many pieces did he get?
   b. If divided equally, how many pieces will each person get?

8. Terry bought 4 large pizzas for a group of 6 people.
   a. What was the total cost?
   b. If the cost is divided equally, how much will each person pay?

9. Gary bought 6 small and 6 medium pizzas for a group of 8 people.
   a. What was the total cost?
   b. If the cost is divided equally, how much will each person pay?

MA $12	TH 54	EN $37	GO $36	AB $41	IG $72	OD $73	CH 42	ES 96	HI $9	TS $11	IX 60
SO 3	ME $77	AN $114	ON $49	KI $6	LL 5	SS 100	QU 32	IT 24	ER 51	UN 6	AT 10

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Why Is It Dangerous to Do Math in the Jungle?

Mark each box containing a number that does not belong in that row. Then write the letters from these boxes on the lines at the right.

Multiples of 5	0 T	5 S	10 A	15 H	18 I	20 X	25 S	30 E	35 T	36 F	40 N	45 O	50 P	____
Multiples of 2	0 B	2 T	4 A	5 Y	6 E	8 A	10 I	11 O	12 L	14 K	16 G	17 U	18 A	____
Multiples of 8	0 N	4 A	8 L	16 S	24 K	32 L	40 R	44 D	48 E	50 D	56 E	64 D	72 N	____
Multiples of 3	0 K	3 N	6 U	9 M	12 I	14 T	15 H	18 B	21 R	24 E	26 W	27 N	28 O	____
Multiples of 6	0 P	6 L	12 O	15 A	18 R	24 F	30 E	36 T	40 N	42 S	48 T	52 D	54 E	____
Multiples of 9	0 F	9 I	18 T	27 W	36 H	42 S	45 E	54 O	63 V	66 I	72 E	81 N	84 X	____
Multiples of 4	0 T	4 H	6 Y	8 A	12 E	16 S	18 O	20 V	24 N	28 G	31 U	32 L	36 R	____
Multiples of 7	0 H	7 C	14 A	21 V	24 W	28 N	35 E	39 I	42 S	44 L	45 L	49 H	56 S	____
Even Numbers	6 S	11 G	14 O	10 A	2 I	16 N	8 O	12 U	0 R	4 O	15 E	10 W	9 T	____
Odd Numbers	5 E	13 T	17 E	7 I	18 A	19 L	1 G	15 R	11 H	0 T	3 S	2 E	9 M	____

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What Happened to the Skunk Who Couldn't Swim?

For each exercise, shade in the factors of the given number. Then, in the Decoder Key, find the letter with the same pattern of shading. Write this letter in the box containing the number of the exercise.

1 factors of 28 6 18 7 4	**2** factors of 18 3 6 2 9	3 factors of 15 2 5 3 7	**4** factors of 42 9 5 6 7	**5** factors of 49 7 6 9 5	**6** factors of 24 3 8 4 6
7 factors of 56 8 7 6 9	**8** factors of 30 8 4 5 6	**9** factors of 12 4 3 6 2	**10** factors of 81 9 8 7 6	**11** factors of 72 7 5 8 9	**12** factors of 63 7 8 9 5
13 factors of 64 7 9 6 8	**14** factors of 45 8 9 5 6	**15** factors of 32 9 8 7 4	**16** factors of 36 4 7 9 6	**17** factors of 54 8 7 9 6	**18** factors of 9 1 3 9 2

Decoder Key

E	M	A	T	K	B	H	S	N	O
● ○ ○ ○	○ ○ ○ ●	● ● ○ ○	○ ○ ● ●	● ○ ● ○	○ ● ○ ●	○ ● ● ○	● ○ ● ●	● ● ● ○	● ● ● ●

3	10		16	4	7	18	12		8	2		11	14	5		15	9	1	17	6	13

When Is a Lady Not a Lady?

Do each exercise and find your answer in the set of answers to the right. Write the letter of the answer in the box containing the number of the exercise.

A blue whale could weigh more than **294,350** pounds. Give the digit in each place named.

(1) tens' place
(2) hundreds' place
(3) thousands' place
(4) ten thousands' place

In one year, an elephant might eat **102,845** pounds of hay. Give the digit in each place named.

(5) ones' place
(6) ten thousands' place
(7) hundreds' place
(8) hundred thousands' place

The number of species of beetles is more than **216,750.** Give the digit in each place named.

(9) thousands' place
(10) hundred thousands' place
(11) tens' place
(12) ten thousands' place

(A)	2	(H)	3
(N)	9	(W)	5
(E)	4	(T)	0
(T)	1	(H)	0
(E)	8	(O)	4
(M)	2	(S)	5
(N)	5	(I)	7
(S)	1	(R)	2
(U)	6	(E)	0

Write the number in standard form.

(13) 700,000 + 10,000 + 5,000 + 800 + 30 + 6
(14) 500,000 + 30,000 + 6,000 + 700 + 10 + 8
(15) 8,000 + 10,000 + 50 + 600 + 7 + 300,000

(F)	563,718
(I)	715,836
(T)	318,657
(N)	536,718

Write the number in standard form.

(16) 800,000 + 40,000 + 7,000 + 200 + 9
(17) 800,000 + 4,000 + 700 + 20 + 9
(18) 800,000 + 40,000 + 700 + 20 + 9

(A)	804,729
(T)	847,029
(O)	847,209
(S)	840,729

Write the number in standard form.

(19) four hundred ninety-two thousand, six hundred
(20) four hundred ninety thousand, two hundred sixty
(21) four hundred nine thousand, two hundred six
(22) four hundred ninety-two thousand, sixty

(R)	409,206
(T)	492,600
(N)	490,026
(E)	492,060
(O)	490,260

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

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Why Are Unbrushed Teeth Like a Polaroid@Camera?

Do each exercise and find your answer in the set of answers to the right. Write the letter of the answer in the box containing the number of the exercise.

The area of the United States is **3,618,465** square miles.
Give the digit in each place named.

(1) tens' place
(2) ten thousands' place
(3) thousands' place
(4) millions' place

The earth travels around the sun in **31,556,926** seconds.
Give the digit in each place named.

(5) hundreds' place
(6) hundred thousands' place
(7) millions' place
(8) ten millions' place

The speed of light is **670,614,120** miles per hour.
Give the digit in each place named.

(9) ones' place
(10) thousands' place
(11) ten millions' place
(12) hundred millions' place

Write the number in standard form.

(13) one million, two hundred thirty-four thousand, five hundred
(14) twelve million, thirty-four thousand, fifty
(15) twelve million, three hundred four thousand, five

Write the number in standard form.

(16) ninety-eight million, seventy thousand, six hundred
(17) ninety million, eight hundred seven thousand, six
(18) nine hundred eight million, seven thousand, sixty
(19) nine hundred eighty million, seven hundred six thousand

Write the number in standard form.

(20) fifty million, fifty thousand, five hundred five
(21) five hundred fifty million, five thousand, fifty
(22) five hundred five million, five hundred thousand, five
(23) five hundred million, fifty-five thousand, five hundred

9	15	2	5		17	7	22	13	11	4	20		1	10	18	14	8		12	19	3		21	6	23	16

(O)	3	(T)	6
(E)	1	(N)	8
(S)	4	(G)	5
(R)	3	(E)	1
(I)	5	(K)	6
(Y)	9	(C)	2
(O)	6	(L)	7
(T)	0	(B)	1
(H)	4	(A)	2

(I) 12,034,050
(N) 12,340,500
(E) 1,234,500
(H) 12,304,005

(E) 908,007,060
(M) 98,070,600
(W) 980,706,000
(R) 980,070,060
(D) 90,807,006

(S) 505,055,050
(V) 505,500,005
(F) 550,005,050
(L) 500,055,500
(P) 50,050,505

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Why Did the Spy Get Caught When He Sneezed?

Do each exercise and find your answer in the answer columns. Write the letter of the answer in the box containing the number of the exercise.

I. Give the place value of each underlined digit.

(1) 102,753,962,<u>3</u>71

(2) 284,1<u>5</u>0,618,864

(3) 342,142,5<u>7</u>0,259

(4) 61<u>8</u>,177 3<u>8</u>2

(5) 917 21,646,4<u>0</u>0

(6) <u>8</u>89,899,605,065

(7) 2<u>0</u>5,016,439,628

(8) 7,847,<u>2</u>35,390

(9) 4,<u>7</u>60,921,077

(10) 56,888,759,41<u>6</u>

(11) 31,541,41<u>3</u>,174

(12) 396,53<u>6</u>,637,077

(13) The number of different ways that 14 books can be arranged on a shelf is **8<u>7</u>,178,291,200.**

Answers:

(O) ones

(H) tens

(E) hundreds

(D) thousands

(A) 10 thousands

(E) 100 thousands

(N) millions

(O) 10 millions

(A) 100 millions

(E) billions

(I) 10 billions

(S) 100 billions

II. Write each number in standard form.

(14) Five billion, seventy hundred twenty-four million, two hundred sixty-six thousand, eight hundred ten.

(15) Ninety-three billion, four hundred fifty million, three hundred eighteen thousand, five hundred.

(16) Four hundred thirty-six billion, eight hundred fifty-one million, six hundred eighty thousand.

(17) Two hundred twenty-nine billion, four hundred six million.

(18) Seven hundred thirty billion, five hundred ninety-six thousand.

(19) Eight hundred two billion, three hundred thirty-four million, two hundred seventy-one.

Answers:

(T) 436,850,680,100

(H) 436,851,680,000

(L) 229,460,100,000

(H) 5,724,266,810

(D) 802,334,000,271

(B) 5,722,466,810

(N) 93,450,318,500

(S) 730,000,596,000

(C) 229,406,000,000

(R) 93,405,358,000

5	1	14	3	11	9	17	2	19	4	7	12	16	13	6	15	10	18	8

MIDDLE SCHOOL MATH WITH PIZZAZZ! BOOK A
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Why Did the Farmer's Daughter Watch the Lazy Cows?

For each exercise, circle the letter of the correct choice. Write this letter in the box containing the number of the exercise.

I. Write >, <, or = in each ❑.	>	<	=
1. 1,654 ❑ 1,649	S	P	R
2. 8,693 ❑ 8,725	T	H	L
3. 33,046 ❑ 33,064	A	E	I
4. 92,500 ❑ 92,005	L	T	W
5. 10,000 ❑ 99,999	O	I	A
6. 100,000 ❑ 99,999	K	C	N
7. 764,608 ❑ 746,608	E	I	U
8. 892,010 ❑ 892,001	D	N	R
9. 500,000 ❑ 1,000,000	B	S	M
10. three million ❑ 3,000,000	H	T	E
11. 1,001,100 ❑ 1,010,001	N	E	T
12. 60,050,000 ❑ 60,005,999	I	D	M
13. 100,000,000 ❑ 100 million	L	R	N

II. Write the correct number by each question.

14. Which is the least number?
15. Which is the greatest number?

(H) 1,153 (G) 1,099 (T) 1,200

16. Which is the least number?
17. Which is the greatest number?

(E) 17,001 (I) 8,470 (H) 8,407

18. Which is the least number?
19. Which is the greatest number?

(E) 62,903 (M) 62,309 (S) 62,310

20. Which is the least number?
21. Which is the greatest number?

(A) 70,707 (T) 77,007 (N) 70,770

22. Which is the least number?
23. Which is the greatest number?

(S) 999,000 (O) 1,000,000 (L) 990,009

24. Which is the least number?
25. Which is the greatest number?

(F) 5,281,050 (A) 5,263,078 (T) 5,263,091

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

Why Did Mrs. Washington Go Into Young George's Bedroom Early In the Morning?

Do each exercise and find your answer in the answer column under it. Write the letter of the answer in the box containing the number of the exercise. If the answer has a ●, shade in the box instead of writing a letter in it.

Round to the nearest ten.

(1)	362
(2)	757
(3)	425
(4)	1,984
(5)	3,668
(6)	8,109
(7)	22,451
(8)	71,094
(9)	50,269
(10)	81,898

Answers:

(A)	420
(R)	750
(E)	430
(S)	360
(Y)	1,990
(W)	3,670
(H)	760
●	1,980
(D)	3,660

Answers:

(S)	50,260
(D)	81,900
(T)	71,090
(S)	22,460
(E)	50,270
(A)	8,110
(R)	81,890
(D)	71,100
(N)	22,450

Round to the nearest hundred.

(11)	863
(12)	451
(13)	1,922
(14)	7,370
(15)	4,505
(16)	65,283
(17)	90,559
(18)	54,036
(19)	54,063
(20)	236,645

Answers:

(L)	4,600
●	900
(S)	4,500
(B)	400
(O)	1,900
(P)	7,300
(T)	500
(H)	2,000
●	7,400

Answers:

(M)	55,000
(H)	236,600
(E)	65,300
(N)	90,500
●	54,000
(T)	54,100
(R)	236,700
(E)	90,600
(A)	65,200

Round to the nearest thousand.

(21)	3,294
(22)	8,675
(23)	9,580
(24)	28,064
(25)	49,307
(26)	90,909
(27)	372,861
(28)	608,522
(29)	174,280
(30)	99,900

Answers:

(U)	50,000
(M)	8,000
(N)	49,000
(S)	10,000
(T)	29,000
(E)	3,000
●	9,000
(A)	4,000
(O)	28,000

Answers:

(S)	174,000
(A)	608,000
(R)	373,000
(L)	362,000
●	91,000
(E)	100,000
(I)	609,000
(T)	175,000
(G)	90,000

●	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	●

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How Was Icky Snerd Driving His Parents Crazy?

Do each exercise and find your answer in the adjacent answer columns. Write the letter of the exercise in the box containing the number of the answer.

Round to the nearest ten.

(Y)	875
(L)	2,663
(A)	8,094
(S)	8,199
(O)	44,087
(I)	78,502
(E)	173,466

ANSWERS

(26)	78,510	(5)	8,200
(4)	2,670	(16)	173,460
(10)	880	(27)	44,090
(15)	78,500	(7)	2,660
(12)	44,080	(2)	173,470
(24)	8,090	(22)	870

Round to the nearest hundred.

(T)	5,280
(O)	9,643
(A)	4,957
(E)	57,092
(S)	57,029
(I)	380,677
(H)	641,009

ANSWERS

(21)	9,700	(11)	642,000
(26)	380,700	(4)	5,000
(14)	4,900	(16)	57,000
(22)	57,100	(1)	641,000
(20)	5,300	(3)	5,200
(28)	380,600	(12)	9,600

Round to the nearest thousand.

(E)	7,300
(A)	4,508
(R)	16,499
(W)	52,066
(S)	80,738
(H)	249,170
(B)	249,710

ANSWERS

(9)	5,000	(23)	80,000
(8)	53,000	(3)	52,000
(21)	250,000	(18)	7,000
(28)	16,000	(17)	248,000
(14)	249,000	(11)	81,000
(25)	4,000	(6)	17,000

Round to the nearest ten thousand.

(N)	38,640
(A)	93,700
(V)	166,450
(W)	572,119
(S)	160,888
(H)	2,744,500
(P)	6,196,370

ANSWERS

(8)	150,000	(25)	170,000
(13)	40,000	(19)	2,750,000
(23)	580,000	(17)	6,200,000
(19)	160,000	(6)	90,000
(17)	30,000	(23)	2,740,000
(8)	570,000	(25)	6,190,000

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28

Why Do You Get A Wig From The Acme Wig Company So Quickly?

For each exercise, write the missing number in the blank. Then select the property illustrated. CIRCLE the letter in the appropriate column next to the sentence.

At the bottom of the page, find the box containing the number you wrote in the blank. Write the letter you circled in this box.

		commutative property	associative property	identity property
1	$2 + 3 = \square + 2$	E	P	C
2	$43 + \square = 39 + 43$	A	V	O
3	$21 + 0 = \square$	S	A	T
4	$\square + 0 = 60$	G	N	I
5	$(4 + 5) + 6 = 4 + (5 + \square)$	A	E	T
6	$(74 + 29) + 83 = \square + (29 + 83)$	O	T	S
7	$15 + (\square + 6) = (15 + 33) + 6$	R	H	E
8	$149 + \square = 149$	L	R	I
9	$70 + 80 = 80 + \square$	N	T	L
10	$\square + 586 = 586 + 211$	Y	R	N
11	$(5 + 19) + 14 = 5 + (\square + 14)$	E	A	O
12	$\square + (64 + 55) = (37 + 64) + 55$	A	I	U
13	$8 + \square = 43 + 8$	M	W	B
14	$99 + 0 = \square$	E	K	D
15	$352 + 87 = \square + 352$	L	M	T
16	$(93 + 45) + \square = 93 + (45 + 68)$	R	S	B
17	$\square + 0 = 51$	F	N	R
18	$75 + (225 + 30) = (\square + 225) + 30$	K	H	S

21	33	3	211	30	68	6	70	99	45	37	74	17	75	19	60	51	43	39	0	87

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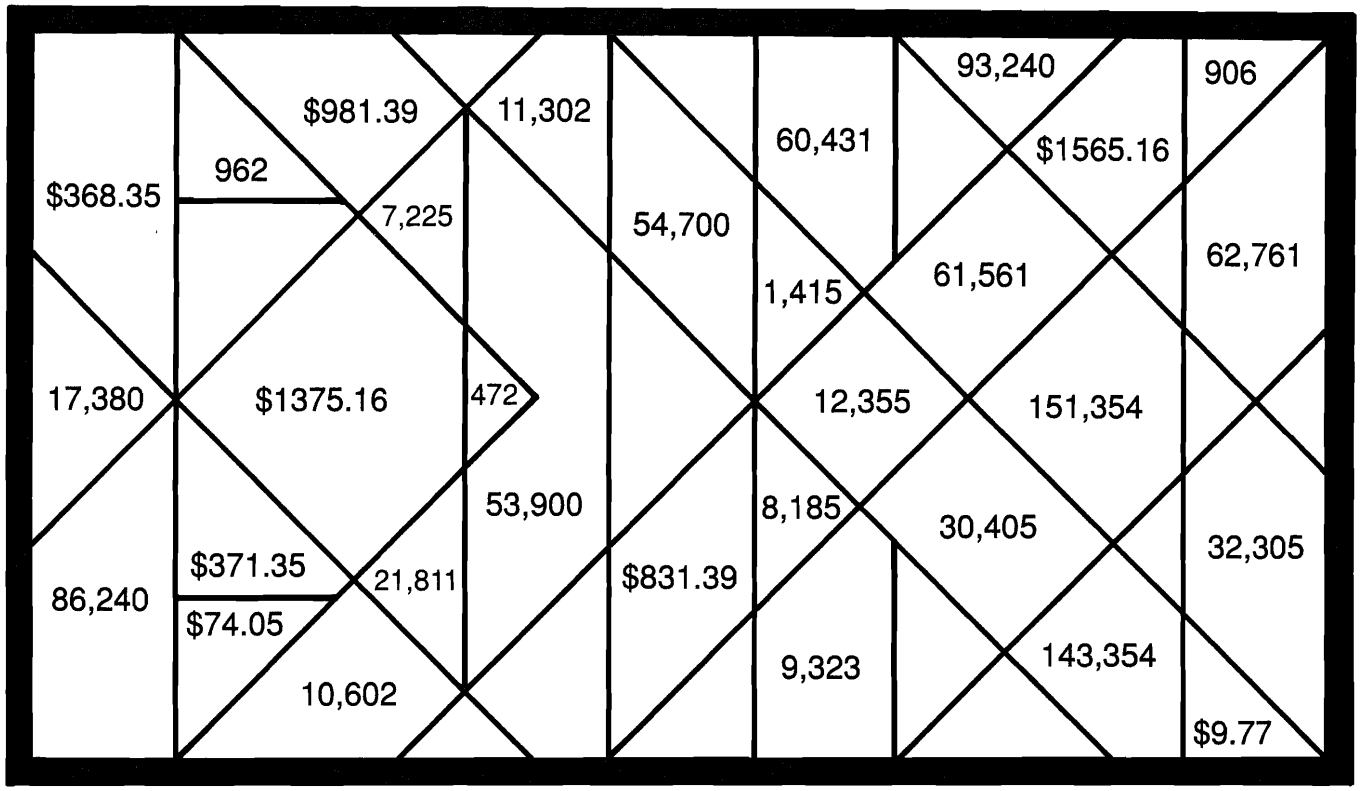
Dentists Hate It!



Do the exercises below and find your answers in the rectangle. Shade in each area containing a correct answer. You will discover what dentists hate!

(1) 347 + 125	(2) 664 + 298	(3) 780 + 635	(4) 869 + 37
(5) 6,238 + 1,947	(6) 8,005 + 9,375	(7) 4,717 + 7,638	(8) 9,646 + 956
(9) 54,728 + 5,703	(10) 77,436 + 65,918	(11) 13,721 + 8,090	(12) 38,964 + 47,276
(13) $6.79 + 2.98	(14) $54.60 + 19.45	(15) $917.55 + 63.84	(16) $726.16 + 839.00

(17) 6,346 + 879

(18) 4,607 + 25,798

(19) $338.75 + $29.60

(20) 587 + 60,974

(21) 8,416 + 907

(22) 49,000 + 4,900

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What **Do You Get When You ...**

1. Cross a rabbit with a lawn sprinkler?

14,232	54,820	94,700	1,502	46,840	6,289	39,880	94,700	54,820	12,105

2. Cross a kitten with a Xerox" machine?

54,820	95,300	50,373	775	39,880	12,105	51,273	50,373	54,820	263,267

3. Cross two turkeys with a coal production company?

296	88,472	1,944	1,502	94,700	1,734	14,771	88,472	94,700	60,511	6,289

TO DECODE THE ANSWERS TO THESE THREE QUESTIONS:
Do each exercise below and find your answer in the code. Each time the answer appears, write the letter of the exercise above it.

(O)
275
468
+ 32

(Y)
7,446
980
+ 3,679

(B)
1,078
5,456
+ 8,237

(D)
48,350
9,666
+ 2,495

(E)
618
337
85
+ 462

(H)
3,954
629
588
+ 9,061

(I)
81,449
193
6,756
+ 74

(T)
42,671
90,553
52,896
+ 77,147

(S) 265 + 839 + 5,185

(C) 43,706 + 49 + 6,618

(M) 73 + 24 + 58 + 96 + 45

(N) 863 + 72 + 36 + 904 + 69

Use the table at the right for the next three questions.

(A) What is the combined area of the two largest lakes?
_____ **sq** mi

(P) What is the combined area of the three smallest lakes?
_____ sq mi

(R) What is the combined area of all five lakes?
_____ sq mi

Great Lakes	Area (square miles)
Erie	9,940
Huron	23,010
Michigan	22,400
Ontario	7,540
Superior	31,810

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MIDDLE SCHOOL MATH WITH PIZZAZZ! BOOK A
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Why Did Orgo Put a Box of Chalk in the Fire?

Do each exercise and find your answer at the bottom of the page. Write the exercise letter in the box above the answer. (The answer for each exercise is on the same side of the page as the exercise.)

(A) $78 - 35$

(E) $61 - 47$

(D) $982 - 59$

(E) $475 - 228$

(T) $836 - 197$

(H) $7{,}559 - 960$

(I) $9{,}844 - 3{,}817$

(A) $6{,}173 - 4{,}095$

(E) $27{,}348 - 5{,}892$

(P) 8,144 – 78

(W) 19,652 – 9,812

(N) Angel Falls in Venezuela, the highest waterfall in the world, is 3,281 feet high. Ribbon Falls in California, the highest in the United States, is 1,612 feet high. How much higher is Angel Falls?

_____ feet

(O) $\$7.45 - 3.08$

(I) $\$9.16 - 2.47$

(A) $\$15.33 - 8.95$

(T) $\$81.54 - 52.80$

(E) $\$36.83 - 27.24$

(C) $\$687.28 - 90.09$

(L) $52{,}462 - 18{,}774$

(F) $93{,}611 - 85{,}025$

(C) $74{,}638 - 439$

(K) 4,516 – 772

(H) 13,694 – 87

(L) Mt. Everest, the highest mountain in the world, is 29,002 feet high. Mt. McKinley in Alaska, the highest in North America, is 20,320 feet high. How much higher is Mt. Everest?

_____ feet

6,599	14	22,156	9,840	2,078	1,669	639	21,456	923	2,198	43	9,330	8,066	6,027	247

74,199	$9.59	32,188	$4.37	8,586	73,899	$597.19	13,607	$6.38	33,688	3,744	$589.19	8,682	$6.69	$28.74

Did You Hear About ...

A	B	C	D	E	F
G	H	I	J	K	L
M	N	O	P	Q	R ?

Do each exercise and find your answer in the appropriate answer column. Notice the word under the answer. Write this word in the box containing the letter of the exercise.

Answers A–I:

35,155 GO
8,634 NEW
37,655 RUN
599 SYSTEM
548 THE
65,151 CARS
4,812,982 ALL
1,726 WITH
6,088 THAT
2,778 SUBWAY
4,837,982 UNDER
64,551 TRAINS
5,578 BIGGER

(A) $\begin{array}{r} 704 \\ -\ 156 \\ \hline \end{array}$ (B) $\begin{array}{r} 9{,}017 \\ -\ 383 \\ \hline \end{array}$ (C) $\begin{array}{r} 5{,}706 \\ -\ 2{,}928 \\ \hline \end{array}$

(D) $\begin{array}{r} 4{,}449 \\ -\ 3{,}850 \\ \hline \end{array}$ (E) $\begin{array}{r} 8{,}001 \\ -\ 6{,}275 \\ \hline \end{array}$ (F) $\begin{array}{r} 70{,}360 \\ -\ 5{,}809 \\ \hline \end{array}$

(G) $\begin{array}{r} 31{,}681 \\ -\ 25{,}593 \\ \hline \end{array}$ (H) $\begin{array}{r} 50{,}000 \\ -\ 12{,}345 \\ \hline \end{array}$ (I) $\begin{array}{r} 9{,}722{,}600 \\ -\ 4{,}909{,}618 \\ \hline \end{array}$

(J) $\begin{array}{r} \$47.29 \\ -\ 9.64 \\ \hline \end{array}$ (K) $\begin{array}{r} \$70.50 \\ -\ 38.71 \\ \hline \end{array}$ (L) $\begin{array}{r} \$800.00 \\ -\ 60.25 \\ \hline \end{array}$

(M) 5,280 – 394

(N) 71,000 – 710

(O) 10,101 – 6,666

(P) $90.05 – $3.49

(Q) Ms. Twinkle bought a car for $15,000. Five years later, she sold the car for $8,350. How much less was the selling price than the original purchase price?

(R) Leonardo bought one oil painting for $3,150 and another for $4,675. Later, he sold both paintings together for $10,000. How much profit did Leonardo make?

Answers J–R:

3,435 ON
$728.75 WHEN
70,290 GROUND
$2,175 TRACKS
$6,480 WHEELS
$37.65 OVER
$86.56 THEIR
$34.75 AROUND
$739.75 BELOW
4,886 THE
$6,650 SUB
$84.66 CITY
$31.79 TOWN

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What Do You Get When You Phone a Bee?

Do each exercise and find your answer in the rectangle below. Cross out the box that contains your answer. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

(1) 3,817 + 5,966	(2) 4,785 − 1,397	(3) 94,276 + 8,059	(4) 70,831 − 4,674
(5) 2,995 386 + 8,270	(6) 56,148 661 + 7,549	(7) 688,914 392,806 + 45,777	(8) 8,493,281 4,087,556 + 2,269,449
(9) 31,835 − 14,908	(10) 754,800 − 61,922	(11) 905,416 − 398,067	(12) 5,000,500 − 27,534

Matt ordered a Galaxy Burger and a Milky Way Shake.
Karen ordered a Moon Burger and a large Space Drink.

(13) How many calories were in Matt's meal?

(14) How many calories were in Karen's meal?

(15) How many more calories were in Matt's meal than in Karen's meal?

Jennifer ordered a Star Burger, Astro Fries, and a small Space Drink.
Mike ordered a Galaxy Burger, Saturn Rings, and a Milky Way Shake.

(16) How many calories were in Jennifer's meal?

(17) How many calories were in Mike's meal?

(18) How many more calories were in Mike's meal than in Jennifer's meal?

Galaxy Burgers
Calorie Chart

item	calories
Galaxy Burger	725
Star Burger	480
Moon Burger	365
Astro Fries	290
Saturn Rings	195
Milky Way Shake	430
Space Drink, large	140
Space Drink, small	85

"Our Burgers Are Meteor"

PH	TH	GR	AB	ON	EE	UZ	OO
692,878	3,388	650	4,913,966	14,850,286	495	525	505
CA	LL	LA	CO	ZY	OU	BE	SI
66,157	64,358	1,350	4,972,966	14,920,286	9,783	507,349	1,280
CK	GN	OW	AC	AL	LS	IT	IN
16,927	503,449	855	1,127,497	1,145,497	1,155	11,651	102,335

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Why Don't Many Barbers Join the Army?

Estimate each sum or difference. Circle the letter of the better choice. Write this letter in the box containing the number of the exercise.

1. 83 + 39
(D) about 100
(E) about i20

2. 34 + 57
(I) about 90
(B) about 120

3. 91 – 62
(L) about 50
(O) about 30

---

4. 47 + 252
(G) about 260
(T) about 300

5. 758 – 19
(U) about 710
(A) about 740

6. 517 + 184
(Y) about 700
(N) about 900

---

7. 925 – 306
(K) about 400
(E) about 600

8. 1,892 – 721
(P) about 1,500
(H) about 1,200

9. 288 + 4,109
(O) about 4,400
(V) about 4,800

---

10. 336 + 580 + 127
(I) about 1,000
(D) about 1,300

11. 8,195 + 7,606
(L) about 13,000
(E) about 16,000

12. 9,130 – 5,799
(R) about 3,000
(W) about 1,000

---

13. 45,307 – 1,853
(C) about 40,000
(T) about 43,000

14. 29,974 – 6,838
(H) about 23,000
(R) about 26,000

15. 3,710 + 8,926 + 5,235
(N) about 18,000
(L) about 22,000

---

16. $7.84 + $9.15
(P) about $14
(F) about $17

17. $18.58 – $6.63
(S) about $10
(J) about $12

18. $1.98 + $22.09 + $4.67
(R) about $29
(D) about $32

---

19. Valley Video owns 1,714 video tapes. Of these, 288 are rented out. About how many are not rented out?

(B) about 1,200 (C) about 1,400

20. Dinner costs $28.35. Tax and tip together add $6.83. About how much change should you get from a $50 bill?

(S) about $12 (H) about $15

4	14	11	6		17	9	2	15		13	8	1		20	5	10	18		16	3	12	19	7

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What Kind of Birds Jump Out of Airplanes?

Solve each problem below and find your solution in the answer column. Write the letter of the answer in each box containing the number of the problem.

(1) Kent weighs 139 pounds and his bicycle weighs 31 pounds. Jill weighs 106 pounds and her bicycle weighs 28 pounds. How much greater is the combined weight of Kent and his bicycle than the combined weight of Jill and her bicycle?

(2) Janet and Andy bowled three games. Janet's scores were 119, 96, and 145. Andy's scores were 127, 74, and 88. How much greater was Janet's total score for the three games than Andy's total score?

(3) In the three events of a weightlifting competition, Paul had lifts of 165,290, and 259 pounds. Stan had lifts of 216,344, and 243 pounds. How much greater was the combined total of Stan's three lifts than the total of Paul's three lifts?

(4) In his first year on the basketball team, Tim scored 196 points. In his second year he scored 85 more points than the first year. In his third year he scored 33 fewer points than the second year. How many points did Tim score in the third year? (*HINT: First find how many points he scored the second year.)*

(5) In his first year on the football team, Bill rushed with the ball 76 times for a total of 314 yards. In his second year, his rushing total was 68 fewer yards than the first year. In his third year, it was 127 yards more than the second year. How many yards did Bill rush in the third year?

(6) Amy is training to run a marathon. During her five workouts last week, she ran distances of 18 miles, 15 miles, 12 miles, 17 miles, and 20 miles. How much greater is the combined distance of her five workouts than the marathon distance of 26 miles?

(7) Sue has chosen some new ski equipment to buy. The skis cost $296, the poles cost $35, and the boots cost $180. However, one store is offering a package deal price of $375 for all three. How much money will Sue save by buying the package deal?

(N)	45 miles
(S)	248
(I)	59 pounds
(R)	$136
(E)	36 pounds
(U)	91
(T)	373 yards
(D)	237
(O)	89 pounds
(P)	56 miles
(L)	$128
(A)	71
(F)	353 yards

6	2	7	7	3	5	5	7	3	3	6	1	7	4

Why Is The Library Not Adding Any More Fairy Tales?

For each exercise, write the missing number in the blank. Then select the property illustrated. CIRCLE the letter in the appropriate column next to the sentence.

At the bottom of the page, find the box containing the number you wrote in the blank. Write the letter you circled in this box.

		commutative property	associative property	identity property	**zero** property
1	$5 \times 1 = \square$	L	K	A	E
2	$12 \times \square = 12$	I	A	O	T
3	$4 \times 9 = 9 \times \square$	E	D	N	G
4	$30 \times \square = 50 \times 30$	F	P	H	B
5	$8 \times \square = 0$	A	O	T	I
6	$(2 \times 3) \times 7 = 2 \times (3 \times \square)$	C	T	Y	S
7	$(9 \times 8) \times 20 = 9 \times (8 \times \square)$	E	A	I	V
8	$(43 \times 21) \times 37 = \square \times (21 \times 37)$	N	F	R	T
9	$35 \times 45 = \square \times 35$	O	I	T	L
10	$\square \times 6 = 6 \times 96$	S	L	R	P
11	$77 \times 1 = \square$	N	F	T	S
12	$5 \times (40 \times 30) = (5 \times \square) \times 30$	T	N	D	G
13	$61 \times (38 \times \square) = (61 \times 38) \times 59$	A	U	R	S
14	$\square \times (3 \times 15) = (87 \times 3) \times 15$	T	C	N	R
15	$900 \times 44 = \square \times 900$	R	M	F	C
16	$\square \times 1 = 161$	I	S	E	R
17	$(22 \times 1) \times 9 = \square \times (1 \times 9)$	L	P	X	T
18	$75 + (6 \times 0) = \square + 0$	N	Q	R	L

0	77	44	5	40	45	59	7	1	43	161	75	50	96	22	20	87	4

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MIDDLE SCHOOL MATH WITH PIZZAZZ! BOOK A
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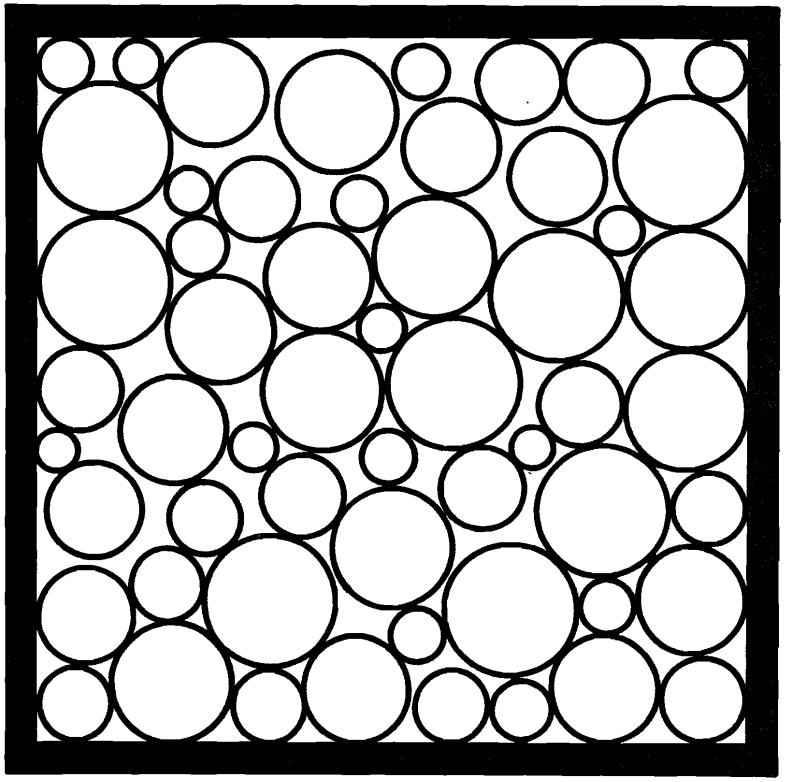
What is the Title of This Picture?

TO DECODE THE TITLE OF THIS PICTURE: These equations illustrate the ***distributive property.*** For each equation, fill in the missing number. Then find your answer in the coded title. Each time the answer appears, write the letter of the exercise above it.

L	$3 \times (6 + 7) = (3 \times 6) + (3 \times \square)$
R	$5 \times (4 + 9) = (5 \times 4) + (5 \times \square)$
I	$8 \times (11 + 2) = (8 \times \square) + (8 \times 2)$
E	$6 \times (8 + 5) = (6 \times 8) + (\square \times 5)$
C	$25 \times (30 + 40) = (\square \times 30) + (25 \times 40)$
N	$70 \times (9 + \square) = (70 \times 9) + (70 \times 12)$
Y	$\square \times (61 + 49) = (3 \times 61) + (3 \times 49)$
F	$(4 \times 6) + (4 \times 8) = \square \times (6 + 8)$
S	$(20 \times 3) + (20 \times 17) = \square \times (3 + 17)$
T	$(9 \times 55) + (9 \times 29) = 9 \times (55 + \square)$
A	$(87 \times 38) + (87 \times \square) = 87 \times (38 + 74)$
X	$(31 \times 99) + (\square \times 56) = 31 \times (99 + 56)$
O	$(\square \times 80) + (5 \times 50) = 5 \times (80 + 50)$
P	$19 \times (33 + 6) = (19 \times \square) + (19 \times 6)$
Z	$(325 \times 7) + (325 \times \square) = 325(7 + 8)$



CODED TITLE:

6	31	33	7	5	20	11	5	12	71	11	12	14	74

33	11	8	8	74	35	4	74	25	29	5	9	3

Why Did Ms. Snorg Throw Vegetables in the Air?

Follow the directions given for each section. Write the letter of each exercise in the box containing its answer.

I. Use mental math to find the product. Under each exercise, show the order in which you multiplied. The first exercise is done as an example.

(S) $2 \times 13 \times 5$	(E) $2 \times 79 \times 5$	(G) $43 \times 5 \times 2$
$(2 \times 5) \times 13 = 130$	$(\quad \times \quad) \times \quad =$	
(A) $5 \times 66 \times 20$	(I) $25 \times 4 \times 94$	(A) $4 \times 14 \times 5$
(S) $21 \times 5 \times 4$	(N) $8 \times 5 \times 11$	(H) $5 \times 32 \times 6$
(M) $2 \times 688 \times 5$	(W) $47 \times 2 \times 50$	(K) $50 \times 12 \times 4$

420	960	790	990	4,700	280	130	2,700	6,880	6,600	2,400	9,400	440	430

II. Use mental math to find the product. Under each exercise, show how the distributive property can be used to multiply mentally. The first exercise is done as an example.

(O) 3×43	(A) 5×34	(S) 4×92
$(3 \times 40) + (3 \times 3) = 129$	$(\quad \times \quad) + (\quad \times \quad) =$	
(D) 7×23	(E) 2×89	(A) 6×65
(S) 8×47	(T) 5×93	(A) 7×66
(D) 9×36	(L) 4×78	(S) 8×59

390	318	465	129	472	368	178	324	422	376	170	312	462	161

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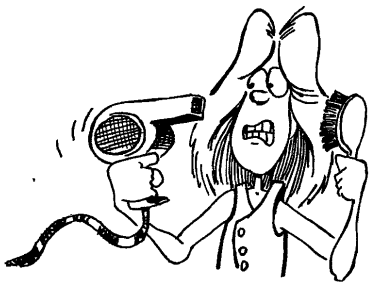
What Do You Call a Car Selling at Half Price?

Multiply mentally, write your answer, and then mark it in the answer columns. For each set of exercises, there is one extra answer. Write the letter of this answer in the corresponding box at the right.

4	10	3	7	1	8	6	9	2	5

1	70 × 10	Answers:			6	7,000 × 4	Answers:		
	7,000 × 100	(B) 7000	(U) 70,000			70,000 × 40	(S) 28,000	(L) 2,800,000	
	700 × 100	(E) 7,0000	(P) 700,00			700 × 40,000	(D) 28,000,000	(P) 28,000,00	
2	100 × 20	Answers:			7	3,000 × 30	Answers:		
	10 × 2,000	(T) 2,000	(V) 20,000			3 × 30	(O) 900	(U) 90,000	
	1,000 × 2,000	(A) 20,000	(E) 2,000,000			3 × 30,000	(I) 90,000	(E) 9,000,000	
3	40 × 90	Answers:			8	80 × 500	Answers:		
	40 × 9,000	(C) 3,600	(G) 36,000			80,000 × 5	(P) 400,000	(T) 4,000,000	
	400 × 90	(I) 36,000	(H) 3,600,000			800 × 55,000	(S) 4,000,000	(L) 40,000,00	
4	30 × 8	Answers:			9	20 × 2 × 30	Answers:		
	300 × 80	(T) 244	(L) 240,000			60 × 1,000 × 2	(E) 1,200	(R) 120,000	
	30 × 80,000	(A) 2,400	(C) 2,400,000			300 × 4 × 10	(I) 12,000	(O) 1,200,000	
5	50 × 60	Answers:			10	300 × 100 × 100	Answers:		
	5,000 × 600	(N) 3,000	(T) 3,000,000			20 × 3 × 30,000	(W) 1,000	(S) 1,800,000	
	5 × 60,000	(R) 300,000	(L) 30,000,000			9,000 × 100 × 2	(C) 90,000	(T) 18,000,00	

Why Do They Call the New Hair Dryer "Volcano"?



Estimate these products. Round each factor to its greatest place, then multiply the rounded factors. Find your estimate in the lists directly under the exercise. Write the letter of the answer in the box containing the number of the exercise. If the answer has a ●, shade in the box instead of writing a letter in it.

1. 32×8

2. 5×89

3. 73×18

4. 57×41

5. 9×665

6. A bus can carry 48 passengers. About how many people can ride on 7 buses?

Estimates:

(R) 140	(I) 2,400
(O) 240	(P) 500
● 350	(N) 4,500
(G) 450	(O) 6,300
(U) 1,400	(T) 63,000

7. 71×48

8. 87×22

9. 45×59

10. 294×63

11. 17×758

12. A theater has 84 rows with 39 seats in each row. About how many seats are in the theater?

Estimates:

(V) 320	(S) 3,500
(C) 1,600	(I) 16,000
(O) 1,800	● 18,000
(N) 3,000	(A) 30,000
(R) 3,200	(B) 35,000

13. 406×892

14. 710×365

15. $9{,}285 \times 34$

16. $53 \times 7{,}719$

17. $6 \times 6{,}180$

18. An ABC machine weighs 520 kg and costs $4,250. About how much would a shipment of 28 ABC machines weigh?

Estimates:

(R) 1,500 kg	(R) 36,000
(F) 2,800	(Y) 270,000
(A) 4,000	(T) 280,000
(P) 15,000 kg	(O) 360,000
(N) 27,000	● 400,000

19. 84×751

20. 396×469

21. 97×903

22. $7{,}840 \times 72$

23. $3 \times 292{,}650$

24. An XYZ machine weighs 81 kg and costs $679. About how much would 310 XYZ machines cost?

Estimates:

(S) 640	● 200,000
(R) $21,000	(T) $210,000
(T) $56,000	(F) 560,000
(B) 64,000	(L) 900,000
(W) 90,000	(S) 2,000,000

11	14	7	16	22	1	12	6	19	23	13	21	4	9	2	10	15	5	3	17	20	24	8	18

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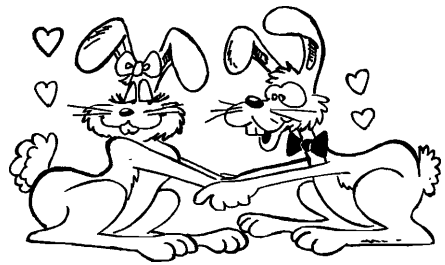
TOPIC Multiplying by a 1-Digit Factor

Mysteries of Love



Do each exercise below and find your answer in the code above that set of exercises. Each time the answer appears, write the letter of the exercise above it. You'll love it!

What did the boy candle say to the girl candle?

246	450	470	432	432	855	192	296	282	448	288

288	162	945	316	945	288	685	462	448	450	945	?

(U) 27×6 (G) 56×8 (A) 94×5

(I) 66×7 (S) 82×3 (L) 48×9

(E) 37×8 (H) 75×6 (W) 96×2

(T) $(27 \times 5) + (90 \times 9)$ (N) $(87 \times 7) + (19 \times 4)$

(O) There are 12 inches in a foot and 3 feet in a yard. How many inches are in 8 yards?

What did the boy rabbit say to the girl rabbit?

344	94	630	273	94	752	86	450	657	128	128	94	882

657	290	290	475	408	94	128	137	525	120	?

(Y) 39×7 (F) 68×6 (A) 73×9

(E) 40×3 (U) 94×8 (L) 58×5

(D) 86×4 (M) 75×7 (O) 47×2

(T) $(26 \times 9) + (81 \times 8)$ (C) $(54 \times 4) + (39 \times 6)$

(R) There are 16 ounces in a pint, 2 pints in a quart, and 4 quarts in a gallon. How many ounces are in a gallon?

Moving Words

Do each exercise in the top block and find your answer in the bottom block. Transfer the word from the top box to the corresponding bottom box. Keep working and you will get some helpful information.

(1) $3 \times 6 \times 4$ WHILE	(2) $8 \times 5 \times 9$ DOWN	(3) $6 \times 7 \times 2$ YOU	(4) $7 \times 9 \times 8$ IN
(5) $(94 \times 3) + (28 \times 5)$ NEVER	(6) $(67 \times 6) + (4 \times 19)$ ALWAYS	(7) $(9 \times 85) + (74 \times 8)$ BECAUSE	(8) $(7 \times 80) + (4 \times 47)$ AND
(9) $(9 \times 9) \times (15 - 8)$ A	(10) $(100 - 92) \times (6 \times 8)$ YOU	(11) $(49 \times 6) - (37 \times 5)$ STANDING	(12) $(88 \times 8) - (77 \times 7)$ GET
(13) $4 \times 4 \times 4 \times 4$ WILL	(14) $3 \times 3 \times 5 \times 5$ PUDDLE	(15) $(8 \times 93) + (27 \times 6)$ CAN	(16) $(56 \times 7) + (3 \times 68)$ MUD
(17) $(500 - 444) \times (50 - 44)$ KNEES	(18) $(9 \times 9) + (8 \times 8) + (7 \times 7)$ STARVE	(19) $(40 \times 7) - (7 \times 40)$ KNEEL	(20) $(1 \times 250) - (0 \times 250)$ BROWN

84	256	422	194	72
109	504	567	596	225
1,357	384	906	478	0
360	748	165	250	336

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MIDDLE SCHOOL MATH WITH PIZZAZZ! BOOK A
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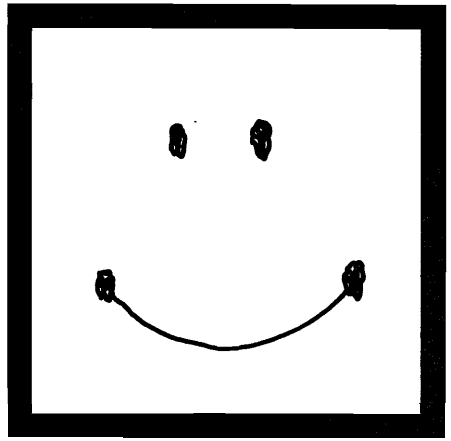
What is the Title of This Picture?



Do each exercise below and find your answer in the coded title. Each time the answer appears, write the letter of the exercise above it.

CODED TITLE:

48,632	37,632	741	1,092	12,246	1,092	31,752	4,554	26,046	4,554	5,463	26,046		
1,110	6,672	31,752	21,888	4,554	5,463	980	1,152	2,950	741	25,905	1,110	1,092	37,632	1,110	1,888

(U) 247×3

(G) 196×5

(L) 834×8

(I) 759×6

(E) 472×4

(N) 607×9

(O) $5{,}376 \times 7$

(M) $8{,}635 \times 3$

(Y) $3{,}648 \times 6$

(S) $2{,}894 \times 9$

(F) $6{,}079 \times 8$

(A) $7{,}938 \times 4$

(J) If a computer printer can print 590 lines per minute, how many lines can the printer print in 5 minutes?

(R) The bell in a college tower rings 156 times every day. How many times does the bell ring in a week?

(P) Pat can type at an average speed of 185 words in 5 minutes. At this rate, how many words can Pat type in half an hour?

What Kind of Car Makes the Line In the Middle of the Road Disappear?

Solve each problem and find your answer at the bottom of the page. Cross out the letter above each correct answer. When you finish, the answer to the title question will remain—something you "auto" know!

Click Photo Supply

item	price
Pro 35-A camera	$479
Instazoom camera	136
Flash attachment	65
Tripod	27
200 mm telephoto lens	145
28 mm wide angle lens	108

1 Lincoln Middle School bought one Pro 35-A camera and three Instazoom cameras from Click Photo Supply. What was the total cost of this equipment?

2 Tim bought a Pro 35-A camera, a flash attachment, and a 28 mm lens. Joe bought an Instazoom camera and a tripod.
A. How much did Tim's equipment cost?
B. How much did Joe's equipment cost?
C. How much greater was the cost of Tim's equipment than Joe's equipment?

3 Film is sold to Click Photo Supply with 6 rolls in a pack. There are 24 packs in a case. How many rolls of film are in 5 cases?

4 Jessica shot 7 rolls of film with 24 pictures on each roll and 2 rolls with 36 pictures on each roll. How many pictures did Jessica take altogether?

5 Jill shot 9 rolls of film with 36 pictures on each roll. Of these, 157 pictures were taken indoors. How many pictures were taken outdoors?

6 Mark is sports photographer for the school yearbook. During the year, he took 277 pictures at football games, 382 pictures at basketball games, and 468 pictures at other sports events. Of these, 58 were actually printed in the yearbook.
A. How many sports pictures did Mark take altogether?
B. How many of Mark's pictures were not printed in the yearbook?

7 Bill's photo album has 39 pages with 8 pictures on each page and 25 pages with 4 pictures on each page. How many pictures are in Bill's album?

8 Mary's photo album has 18 pages with 6 pictures on each page, 34 pages with 4 pictures on each page, and 10 pages with 1 picture on each page. How many pictures are in Mary's album?

9 Tom has a photo album with 80 pages. There are 48 pages with 5 pictures on each page. All the other pages have 3 pictures on each page. How many pictures are in Tom's album?

P	A	C	A	S	R	E	O	A	N	D	C	E	N	T	A	R	T
$163	167	336	$832	$887	380	240	412	197	$489	1,069	1,047	690	720	254	$652	$293	1,127

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DAFFYNITION DECODER

1. Prizewinning dog:

36,028	35,178	12,336	44,716	15,720	3,564	11,820	59,512

2. Mudpie:

47,800	3,564	11,820	9,360	35,178	4,808	3,564	44,574	47,800

3. Pick for mountain climbers:

4,808	22,920	25,476	3,607	44,613	3,624	3,564	77,517

TO DECODE THESE THREE DAFFYNITIONS:

Do each exercise below and find your answer in the code. Each time the answer appears, write the letter of the exercise above it.

(T) 1,872 × 5	(F) 7,439 × 8	(O) 3,084 × 4	(B) 4,957 × 9
(H) 5,863 × 6	(I) 8,492 × 3	(W) 6,388 × 7	(E) 9,560 × 5
(X) 8,613 × 9	(K) 7,429 × 6	(L) 2,865 × 8	(S) 9,007 × 4

(M) $(7 \times 745) - (3 \times 536)$

(R) A rock band made a concert tour of 13 cities. They traveled an average of 1,970 miles per week for 6 weeks. How far did they travel altogether?

answer: _____ miles

(A) $(478 \times 9) - (2 \times 369)$

(C) Tickets to a play cost $8 for adults and $5 for children. If 496 adult tickets and 168 children's tickets were sold, how much was spent on tickets altogether?

answer: $_____

Did You Hear About ...

A	B	C	D	E
F	G	H	I	J
K	L	M	N	O ?

Do each exercise and find your answer in the appropriate answer column. Notice the word under the answer. Write this word in the box containing the letter of the exercise.

Answers A–H:

238,190 SOME
127,688 WHEN
34,008 ACTOR
62,262 DOWN
697,048 ROCKS
52,395 **FELL**
113,688 **AND**
21,992 THE
38,192 ON
253,190 THE
36,292 WHO
680,048 STAIRS
54,195 WANTED

(A) 2,749 × 8

(B) 5,668 × 6

(C) 9,073 × 4

(D) 7,485 × 7

(E) 6,918 × 9

(F) 47,638 × 5

(G) 85,006 × 8

(H) 37,896 × 3

(I) 54,273 × 9

(J) 93,847 × 6

(K) 26,930 × 7

(L) 48,657 × 4

(M) Sound travels at a speed of about 1,087 feet per second when the temperature is 32°F. At this speed, how far does sound travel in 8 seconds?

_____ feet

(N) A space satellite made 3 orbits around the earth in 5 hours. The satellite traveled at an average speed of 15,490 miles per hour. How far did it travel?

_____ miles

(O) A truck for delivering new cars weighs 9,350 pounds when empty. If the truck is loaded with 7 cars that each weigh 2,780 pounds, what is the total weight of the loaded truck?

_____ pounds

Answers I–O:

8,386 DOING
488,457 FINALLY
582,082 WENT
77,450 **A**
194,628 PART
25,910 **PLAY**
8,696 IN
563,082 GOT
79,150 **t-IIS**
449,457 THEM
28,810 CAST
184,928 FRIEND
188,510 **A**

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Why Did the Cow Jump Up and Down?

Do each exercise and find your answer to the right. Write the letter of the answer in the box containing the number of the exercise. If the answer has a ● , shade in the box instead of writing a letter in it.

(1) 38×40	(2) 27×50	(3) 596×80	(G) 1,240 (E) 1,520 (T) 47,680	(V) 15,200 (F) 1,350 (A) 43,780
(4) 946×200	(5) 875×700	(6) $4{,}389 \times 900$	(L) 394,010 (E) 612,500 (S) 177,200	(R) 189,200 (P) 6,125,000 ● 3,950,100
(7) $1{,}757 \times 6{,}000$	(8) $6{,}082 \times 3{,}000$	(9) $84{,}936 \times 5{,}000$	● 18,246,000 (C) 4,446,000 (T) 10,542,000	(N) 9,742,000 (D) 424,680,000 (B) 1,814,600
(10) $7{,}560 \times 90$	(11) $4{,}183 \times 800$	(12) $90{,}075 \times 4{,}000$	(K) 3,247,000 ● 680,400 (A) 3,604,000	(I) 360,300,000 (E) 3,346,400 (U) 672,400
(13) $\$8.46 \times 600$	(14) $\$63.94 \times 7{,}000$	(15) $\$91.07 \times 30$	(E) \$5,076.00 (R) \$2,732.10 (N) \$26,321.00	(S) \$457,560.00 (A) \$5,126.00 ● \$447,580.00
(16) $7{,}280 \times 8{,}000$	(17) 837×20 (18) $5{,}915 \times 500$		(O) 2,896,500 (T) 17,240 (C) 57,640,000	(B) 58,240,000 (A) 2,957,500 (H) 16,740
(19) $976{,}200 \times 70$	(20) 64×400 (21) $942 \times 9{,}000$		(H) 246,000 (M) 8,478,000 (T) 25,600	(L) 68,334,000 (F) 8,497,000 (R) 66,374,000

(22) During the last 30 days, Bill ran 185 laps around the school track. If the track is 400 meters long, how far did Bill run altogether?

(23) Judy swam 16 lengths of the pool doing backstroke. Then she swam 32 lengths using freestyle. If the pool is 50 meters long, how far did Judy swim altogether?

(A) 34,000 m
(U) 2,400 m
(E) 74,000 m

12	3	6	21	18	9	1	14	17	11	4	8	2	22	13	19	10	16	23	7	20	5	15

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Animal Cracks

Do each exercise below and find your answer in the code for that set of exercises.
Each time the answer appears, write the letter of the exercise above it.

1. What animal is black, white, and green?

4,816	4,526	4,292	4,816	5,913	1,624	3,283	4,292	972	4,082	4,048	6,110	1,343	5,913	4,816

(K) 36 × 27 (E) 65 × 94 (R) 73 × 81 (I) 49 × 67 (S) 28 × 58 (B) 17 × 79 (A) 56 × 86

(Z) $92 \times (19 + 25)$

(C) An artist made a rectangular table top using rows of small square tiles. If there are 58 rows with 74 tiles in each row, how many tiles were used? _____ tiles

2. How can you tell the price of a pelican?

4,005	3,150	3,150	2,520	3,422	1,206	3,612	3,915	3,612	2,888	7,885	2,481	3,705	2,891	4,005	4,005

(E) 83 × 95 (A) 67 × 18 (O) 75 × 42 (H) 38 × 76 (I) 49 × 59 (K) 90 × 28 (B) 57 × 65

(T) $84 \times (93 - 50)$

(L) A school bought **45** band uniforms and **18** musical instruments. If the uniforms cost **$89** each, what was the total cost of the uniforms? $_____

MIDDLE SCHOOL MATH WITH PIZZAZZ! BOOK A
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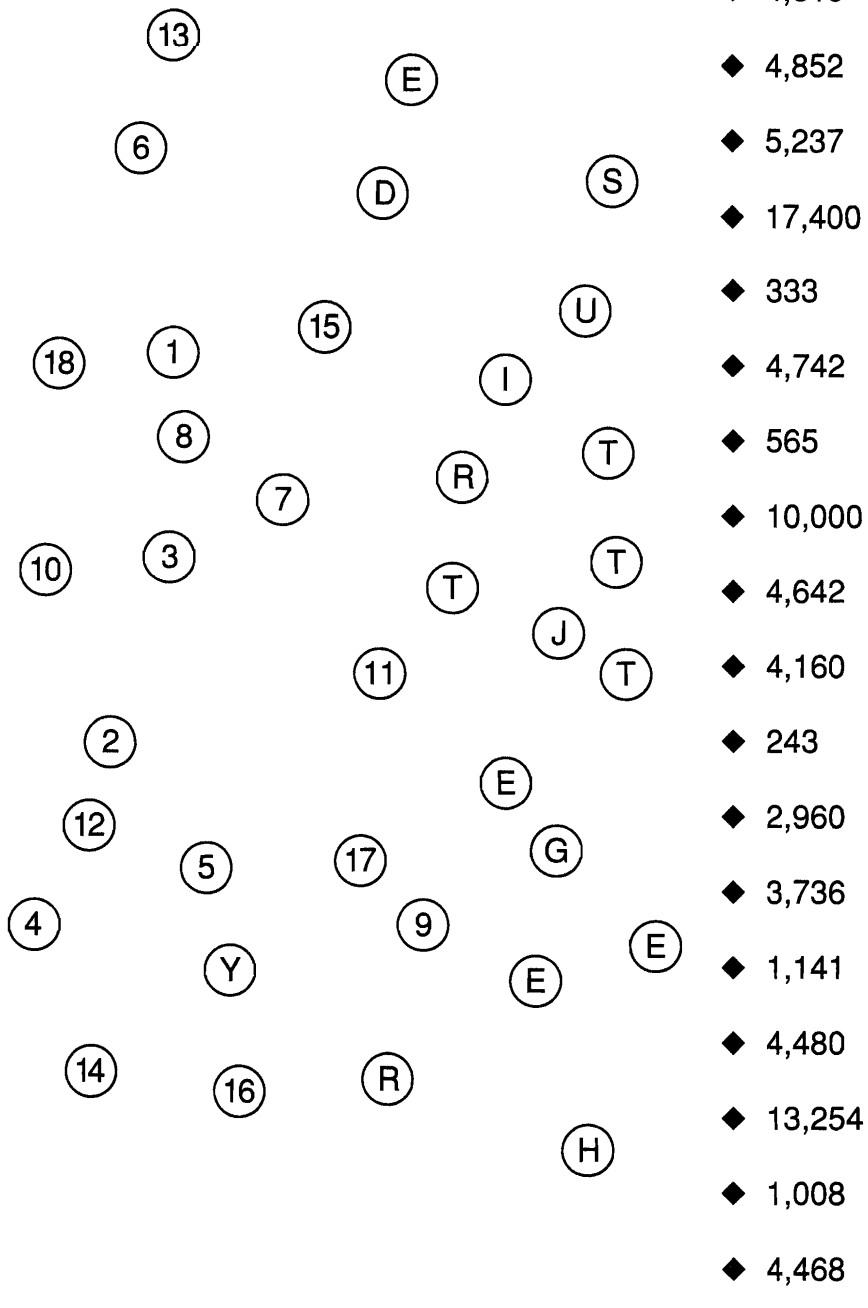
What Happens to Old Trucks?

Do each exercise below. Draw a straight line connecting the square by the exercise to the square by its answer. The line will cross a number and a letter. Write the letter in the matching numbered box at the bottom of the page.

1	$(72 \times 16) + 4{,}085$	◆	4,819
2	$(49 \times 83) + 675$	◆	4,852
3	$(96 \times 50) - 1{,}840$	◆	5,237
4	$(67 \times 67) - 3{,}924$	◆	17,400
5	$5{,}280 - (48 \times 89)$	◆	333
6	$10{,}000 - (57 \times 94)$	◆	4,742
7	$(76 \times 28) + (39 \times 69)$	◆	565
8	$(58 \times 67) - (15 \times 10)$	◆	10,000
9	$(7 \times 7 \times 92) - 40$	◆	4,642
10	$6{,}000 - (5 \times 8 \times 46)$	◆	4,160
11	$(2 \times 39 \times 5) + 751$	◆	243
12	$(7 \times 92 \times 8) - 300$	◆	2,960
13	$94 \times 47 \times 3$	◆	3,736
14	$50 \times 58 \times 6$	◆	1,141
15	$(60 \times 60) + (80 \times 80)$	◆	4,480
16	$4 \times 4 \times 4 \times 70$	◆	13,254
17	$3 \times 3 \times 3 \times 3 \times 3$	◆	1,008
18	$(1 \times 333) - (0 \times 333)$	◆	4,468



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

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BOOKS NEVER WRITTEN

***The Great Diamond Robbery* by**

8,350	50,991	36,848	2,223	3,666	13,950	6,228	14,550	23,199	37,926	23,352

***Tricky Rifle Shooting* by**

14,550	7,154	28,368	10,332	3,856	37,926	37,248	3,666	5,376	6,228	31,434

ABOVE ARE THE TITLES OF TWO "BOOKS NEVER WRITTEN." TO DECODE THE NAMES OF THEIR AUTHORS:

Do each exercise and find your answer in the code. Each time the answer appears, write the letter of the exercise above it.

(E) 57×39

(H) 84×64

(I) 98×73

(A) 346×18

(N) 278×84

(U) 739×69

(C) 591×48

(G) 407×57

(Y) 806×39

(L) 658×56

(O) $7 \times 63 \times 86$

(K) $28 \times (500 - 131)$

(J) $(195 \times 10) + (64 \times 100)$

(S) A television show was produced for 3 years. Each year, 26 episodes were filmed. Each episode ran 47 minutes. How long would it take to watch all the episodes of that TV show?

_____ min

(R) Bizarre Middle School bought 15 computers and 6 printers. If each computer cost $790 and each printer cost $450, what was the total cost of the new equipment?

$_____

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Hidden Message

Do each exercise and find your answers in the rectangle below. The correct answers run across from left to right. Shade in the boxes containing each correct answer.

When you finish, there will be 28 boxes not shaded. Write the letters from these 28 boxes in the spaces at the bottom of the page. A hidden message will appear!

(1) 375 × 28

(2) 964 × 76

(3) 5,472 × 14

(4) 8,669 × 93

(5) 6,048 × 85

(6) 3,825 × 47

(7) 7,354 x 69

(8) 9,007 x 53

(9) $60 \times 60 \times 24$

(10) $(100 \times 100) - (99 \times 99)$

(11) The Parliament Building in Victoria, British Columbia, is illuminated using 3,270 light bulbs. If each is a 75-watt bulb, how much electric power is needed altogether?

_____ watts

(12) A motion picture camera at normal speed takes 24 pictures per second. How many pictures are in a movie that is 90 minutes long? (1 min = 60 sec)

_____ pictures

S	M	A	L	L	F	A	T	A	D	P	O	L	E	S	M	A	R	T	T	O	P	C	A	N	D	L	E	S	O	L
6,	4	7	7,	3	7	1	5	8,	1	2	9,	6	0	0	4	7	3,	2	6	4	2	9,	1	7	9,	7	7	5	3	1
L	E	G	R	E	A	T	C	T	A	L	K	I	N	G	O	R	A	N	D	S	S	T	A	N	D	R	E	N	I	C
2,	7	1	0,	5	0	0	1	9,	5	1	4,	0	8	0	5	3,	1	9	9	4	0	7,	8	0	6,	2	1	7	3	8
K	T	E	N	T	A	L	K	O	G	I	R	A	F	F	E	T	A	B	L	E	S	H	E	A	T	I	N	G	E	R
5	2,	5	0	7,	4	2	6	9,	0	7	6,	6	0	8	3,	4	8	6,	4	0	0	8	5,	2	4	5,	2	5	0	6

How Do Clocks Communicate?

Do each exercise below. Find your answer in the answer column and notice the letter next to it. Look for this letter in the string of letters near the bottom of the page and CROSS IT OUT each time it appears. When you finish, write the remaining letters in the rectangle at the bottom of the page.

(1) $\begin{array}{r} 714 \\ \times\ 325 \\ \hline \end{array}$

(2) $\begin{array}{r} 629 \\ \times\ 731 \\ \hline \end{array}$

(3) $\begin{array}{r} 845 \\ \times\ 476 \\ \hline \end{array}$

(4) $\begin{array}{r} 598 \\ \times\ 308 \\ \hline \end{array}$

(5) $\begin{array}{r} 920 \\ \times\ 659 \\ \hline \end{array}$

(6) $\begin{array}{r} 357 \\ \times\ 907 \\ \hline \end{array}$

(7) $\begin{array}{r} 6{,}092 \\ \times\ 444 \\ \hline \end{array}$

(8) $\begin{array}{r} 8{,}376 \\ \times\ 608 \\ \hline \end{array}$

(9) $\begin{array}{r} 1{,}869 \\ \times\ 952 \\ \hline \end{array}$

(10) 7,004 x 704

(11) $(308 \times 200) + (38 \times 300)$

(12) $52 \times 51 \times 50$

(13) $(900 \times 600) - (9{,}000 \times 60)$

(14) The image on a computer monitor is composed of many small dots of light. A screen with a diagonal measure of 12 inches might have 200 rows of dots with 320 dots in each row. How many dots is this altogether?

(15) The letter "K" often stands for kilo, meaning 1,000. In computer terms, however, K stands for 1,024. If a computer has 256K of memory, it has room for 256 x 1,024 bytes of information. How many bytes is this?

(A)	2,152,288
(D)	5,092,608
(K)	68,000
(O)	132,600
(M)	459,799
(S)	262,144
(G)	323,799
(F)	232,050
(P)	4,930,816
(L)	213,600
(H)	184,184
(E)	64,000
(V)	2,704,848
(T)	291,144
(B)	402,220
(W)	73,00
(U)	1,779,288
(I)	413,799
(R)	0
(N)	606,280
(C)	4,741,816

W N O S T E R D I S F G C M U K S T O P A S B D E L R N M K V H

ANSWER TO PUZZLE:

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How Did Captain Hook Get Injured?

Do each exercise and find your answer in the set of answers to its right. Write the letter of the exercise in the box containing the number of the answer.

I. Write using an exponent.

(H) $3 \times 3 \times 3 \times 3$
(E) $4 \times 4 \times 4 \times 4 \times 4$
(O) 9×9
(I) $7 \times 7 \times 7$
(W) $10 \times 10 \times 10 \times 10$
(H) $4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4$

(18) 9^3
(28) 10^4
(10) 34
(9) 4^6
(15) 9
(33) 10^5
(20) 73
(22) 47
(7) 45
(16) 37

II. Write the product.

(E) 4^2
(H) 2^3
(I) 10^4
(A) 6^3
(H) 5^6
(N) 9^3
(N) 7^2
(O) 5^3
(T) 2^5
(E) 12^2
(S) 8^4
(D) 10^7

(25) 8
(2) 16
(24) 32
(36) 49
(30) 125
(17) 144
(35) 216
(31) 729
(12) 4,096
(5) 10,000
(6) 14,725
(1) 15,625
(23) 1,000,000
(8) 10,000,000

III. Write as a power of 10.

(E) 1,000
(W) 100,000
(N) 10,000,000
(I) 100
(D) 1,000,000,000
(T) 10

(21) 10^1
(11) 10^2
(26) 10^3
(3) 10^4
(19) 10^5
(14) 10^7
(33) 10^8
(37) 10^9

IV. Solve the equation.

(G) $4 \times 10^2 = n$
(H) $7 \times 10^4 = n$
(S) $n \times 10^3 = 5{,}000$
(W) $9 \times 10^5 = n$
(P) $4 \times 10^6 = n$
(R) $n \times 10^7 = 80{,}000{,}000$

(16) 5
(27) 7
(29) 8
(32) 400
(9) 7,000
(18) 40,000
(34) 70,000
(4) 900,000
(6) 4,000,000
(13) 9,000,000

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	

19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37

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When Do Stores Sell Most of Their Tanning Oil?

Decide whether you would choose mental math, estimation, or a tool (paper and pencil or calculator) to solve each problem. CIRCLE the letter in the appropriate column next to the problem.

Then solve the problem. Find the answer at the bottom of the page and write the letter you circled under it.

Choose: M mental math, E estimation, or T tool

		M	E	T
1	Prime Jr. High has 41 classrooms. Each classroom has 38 desks. About how many desks are in the school altogether?	B	U	R
2	Prime Jr. High buys pencils to sell at the school store. There are 144 pencils in a box, and there are 24 boxes in a carton. How many pencils are in 3 cartons?	E	F	Y
3	The school bought 40 new electronic typewriters for its typing classes. If each typewriter cost $500, what was the total cost of the typewriters?	N	C	L
4	The PTA at Prime Jr. High sponsored a book sale. A book company brought 2,837 paperback books and 694 hardcover books to sell. If 1,472 books were sold, how many books were not sold?	L	E	S
5	This year 688 people came to the Prime Halloween Carnival. They bought an average of 21 game tickets per person. About how many tickets were sold altogether?	H	D	F
6	Prime Jr. High had a campaign to raise $10,000 for new computers. A local bank contributed $3,000. The PTA raised $2,000 from parents and students. How much more money must be raised to reach the goal of $10,000?	O	A	S
7	Each day, Michelle attends 7 different classes. Each class is 50 minutes long. She also has a 10-minute homeroom class. How many minutes does Michelle spend in class each day?	N	L	P
8	The students at Prime Jr. High use an average of 6 different textbooks. If there are 914 students at the school, about how many textbooks are being used altogether?	E	A	O
9	Last year, Scott went to school 6 hours a day for 180 days. He also watched an average of 23 hours of TV each week for 52 weeks. How many more hours did Scott spend watching TV than going to school?	M	P	S

$5,000	$20,000	$7,000	116	1,600	360	250	14,000	5,400	10,368	2,059

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CHAIN CODE

These are called CHAIN EXERCISES. Do the steps in order from left to right for each exercise. Find your answer in the code at the bottom of the page. Each time the answer appears, print the letter from the end of that exercise above it. (HINT Look for steps you can do mentally.)

Take 387 ➤ add 29 ➤ multiply by 8 ➤ subtract 1,725 = G

Take 69 ➤ multiply by 94 ➤ multiply by 10 ➤ subtract 5,581 = O

Take 7,000 ➤ subtract 4,267 ➤ add 163 ➤ multiply by 6 = T

Take 90 ➤ multiply by 80 ➤ add 800 ➤ subtract 7,500 = E

Take 793 ➤ add 793 ➤ multiply by 40 ➤ subtract 62,600 = A

Take 100 ➤ multiply by 328 ➤ subtract 29,014 ➤ multiply by 7 = I

Take 5 ➤ multiply by 800 ➤ subtract 2,760 ➤ subtract 673 = Y

Take 4,004 ➤ subtract 3,197 ➤ multiply by 59 ➤ add 887 = V

Take 200 ➤ subtract 162 ➤ multiply by 80 ➤ add 4,076 = M

Take 94 ➤ multiply by 77 ➤ multiply by 10 ➤ add 6,950 = K

Take 500 ➤ multiply by 50 ➤ subtract 24,800 ➤ multiply by 47 = C

Take 86 ➤ multiply by 73 ➤ multiply by 1 ➤ subtract 5,290 = S

Take 999 ➤ multiply by 0 ➤ multiply by 999 ➤ add 999 = N

title: CASH STASH

988	840	48,500	26,502	999	1,603	960	7,116	59,279	999	500	567

7,116	840	79,330	500	988	28,402	9,400	500	999	17,376	988

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CRYPTIC QUIZ

1. What happened when Tarzan called the King of the Jungle?

11	7	3		17	16	6	13		1	5	14		12	9	14	2

2. Whom did Smedley Jolt ask to help him cook hamburgers?

7	16	14		10	15	16	17	17		4	15	16	3	13	8	

Do each exercise below. Find your answer in the appropriate answer column and notice the letter next to it. Each time the exercise number appears in the code, write this letter above it.

(1) $7{,}388 + 5{,}967$

(2) $947 - 269$

(3) $8{,}176 \times 8$

(4) 69×74

(5) $5{,}086 + 397 + 8{,}464$

(6) 879×95

(7) 274×600

(8) $(60 \times 50) - (40 \times 30)$

(9) $8{,}501 - 3{,}934$

(10) $72{,}600 - 6{,}854$

(11) $58{,}493 \times 6$

(12) $17{,}338 + 49 + 9{,}506 + 618$

(13) $4{,}058 \times 79$

(14) 836×406

(15) $10{,}000 - (8 \times 5 \times 54)$

(16) $(100 \times 27) + (10 \times 693)$

(17) Gyro bought a car priced at **$7,589**. He agreed to make payments of **$260** per month for 36 months. How much more than the actual price will Gyro pay?

$\$$_____

Answers **1-8**		Answers **9-17**	
(R)	**82,905**	(B)	**27,511**
(H)	**164,400**	(J)	**332,958**
(E)	**65,408**	(I)	**9,630**
(L)	**1,650**	(S)	**339,416**
(W)	**13,355**	(L)	**1,771**
(V)	**5,716**	(G)	**65,746**
(A)	**13,947**	(C)	**8,230**
(K)	**193,400**	(U)	**4,567**
(Y)	**678**	(R)	**7,840**
(D)	**1,800**	(N)	**320,582**
(O)	83,505	(P)	1,851
(B)	63,908	**0350,958**	
(F)	**5,106**	(K)	**317,482**
(M)	**538**	(V)	**344,516**

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What Trick Can *Any* Horse Do?

Do each exercise and find your answer in the rectangle below. Cross out the box that contains your answer. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

1 The United States has about 1,800 daily newspapers, 8,400 weekly newspapers, and 550 semiweekly newspapers. How many is that altogether?

2 The *Sunday* Times had 14 sections with an average of 16 pages per section. How many pages were in the entire newspaper?

3 The chart at the right shows the circulation of the *Daily Planet* in a recent week.

A. How many copies were sold on the weekend (Saturday and Sunday)?
B. How many more copies were sold on Sunday than on the day with the second highest circulation?
C. Round each figure to the nearest 1,000. Then add to estimate the total circulation for the week.

Daily Planet	
circulation	
Monday	8,841
Tuesday	7,430
Wednesday	8,229
Thursday	9,968
Friday	9,075
Saturday	9,913
Sunday	14,507

4 An offset press can print about 270 sheets of paper per minute. Each sheet is cut to make 8 newspaper pages. How many newspaper pages can be printed in one hour?

5 A subscription to the *Daily Planet* costs $1*9* per month for delivery every day, or $15 per month for delivery every day except Sunday. How much does it cost to receive the newspaper every day for a year?

6 Express Press delivers 374 newspapers each day Monday through Saturday. On Sunday, it delivers 590 newspapers. How many newspapers does Express Press deliver in a week?

7 For a half-page advertisement, a newspaper charges $965 for each day Monday through Saturday and $1,270 for Sunday. How much does it cost to run a half-page ad for one week?

8 For classified advertising, a newspaper charges $11 per line for each day Monday through Saturday and $15 per line for Sunday. How much does it cost to run a 6-line ad for one week?

9 Daily newspaper circulation in the United States averages about 300 copies for every 1,000 persons. At this rate, how many newspapers would be sold in a town of 50,000 people?

JU	SI	MP	TU	NE	RN	AS	CA	LL
4,539	2,834	129,600	94,600	15,000	17,000	224	3,239	$7,060
SE	RT	WH	OA	AT	EE	SA	UP	LS
10,750	11,720	$6,460	68,000	$486	$318	24,420	$228	75,000

Why Did The Mama Flea Look So Sad?

Do each exercise mentally and find your answer in the corresponding set of answer boxes. Write the letter of the exercise in the box containing the answer.

(L) $280 \div 4$

(K) $6{,}300 \div 9$

(E) $180 \div 6$

(A) $24{,}000 \div 8$

(R) $7\overline{)5{,}600}$

(L) $5\overline{)400}$

(H) $8\overline{)64{,}000}$

(E) $2{,}400 \div 4$

(S) $540 \div 6$

(I) $36{,}000 \div 9$

(E) $30{,}000 \div 5$

(W) $3\overline{)2{,}700}$

(D) $7\overline{)420}$

(R) $2\overline{)800}$

3,000	80	70	7,000	8,000	30	800	300	700	4,000	60	90	40	900	600	400	6,000	9,000

(I) $15{,}000 \div 3$

(O) $4{,}000 \div 8$

(N) $1{,}400 \div 7$

(G) $1{,}400 \div 2$

(T) $5\overline{)10{,}000}$

(G) $4\overline{)200}$

(O) $3\overline{)60}$

(H) $81{,}000 \div 9$

(O) $240 \div 6$

(S) $20 \div 5$

(E) $2{,}100 \div 7$

(T) $4\overline{)360}$

(D) $3\overline{)90}$

(G) $8\overline{)32{,}000}$

7,000	700	20	5,000	200	50	10	2,000	500	900	90	9,000	300	3,000	30	40	4,000	4

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What Tool Did the Brontosaurus Use to Build His House?

Divide mentally, write your answer, and then mark it in the answer column. For each set of exercises, there is one extra answer. Write the letter of this answer in the corresponding box at the right.

3	6	8	2	4	7	1	5

1

180 ÷ 30
4450 ÷ 50
44,200 ÷ 70
5,400 ÷ 60

Answers:
(M) 300
(F) 70
(A) 900
(G) 6
(K) 90

2

14,000 ÷ 20
5,600 ÷ 80
36,000 ÷ 90
280 ÷ 70

Answers:
(Y) 70
(H) 4
(C) 700
(N) 40
(V) 400

3

1,500 ÷ 300
7,200 ÷ 900
48,000 ÷ 600
40,000 ÷ 800

Answers:
(P) 8
(R) 50
(L) 80
(B) 5
(A) 800

4

400)1,200
900)63,000
30)900
70)21,000

Answers:
(E) 3
(O) 7
(S) 70
(T) 30
(A) 300

5

720,000 ÷ 800
180,000 ÷ 900
18,000 ÷ 600
800 ÷ 40

Answers:
(W) 2
(D) 90
(L) 900
(N) 200
(T) 20

6

360 ÷ 6
480,000 ÷ 800
3,200 ÷ 40
300 ÷ 50

Answers:
(S) 80
(T) 60
(D) 8
(N) 6
(P) 600

7

4,500 ÷ 900
24,000 ÷ 60
800 ÷ 200
2,000 ÷ 40

Answers:
(R) 5
(L) 4
(P) 50
(S) 40
(T) 400

8

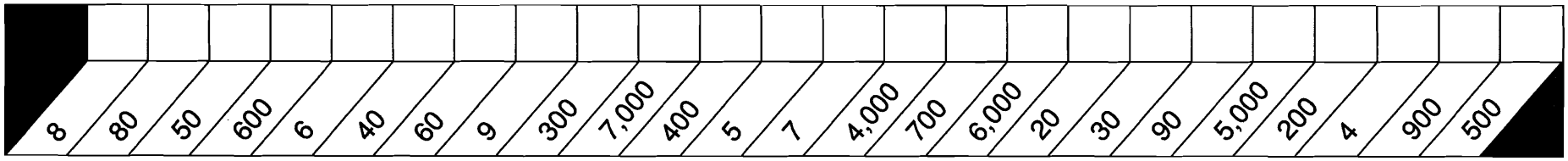
800)640,000
5)400
600)1,800
90)27,000

Answers:
(E) 30
(I) 3
(O) 800
(S) 300
(A) 80

Why Did Workers at the Raisin Factory Want to Keep Some Raisins for Themselves?

Choose the best replacement for the dividend so that a basic fact can be used to estimate the quotient. Then write the estimate. Write the letter of your replacement in the box above the estimate at the bottom of the page.

(1) 429 ÷ 7	(2) 354 ÷ 4	(3) 313 ÷ 6	(4) 623 ÷ 90	(5) 387 ÷ 50
Y 400	D 350	E 300	P 600	R 350
A 420	I 360	L 310	U 620	B 390
N 430	X 370	C 320	A 630	T 400
(6) 1,253 ÷ 3	(7) 7,049 ÷ 8	(8) 2,319 ÷ 7	(9) 1,675 ÷ 90	(10) 3,168 ÷ 40
G 1,000	K 6,400	T 2,100	D 1,700	U 2,800
D 1,200	E 7,100	S 2,300	I 1,800	R 3,100
V 1,300	A 7,200	L 2,800	T 2,000	H 3,200
(11) 43,509 ÷ 6	(12) 26,016 ÷ 5	(13) 46,370 ÷ 80	(14) 20,991 ÷ 30	(15) 3,054 ÷ 70
E 42,000	N 25,000	S 46,000	T 20,000	W 2,800
A 44,000	T 26,000	Y 48,000	R 21,000	R 3,000
O 48,000	F 27,000	N 50,000	S 24,000	P 3,500
(16) $9\overline{)4{,}278}$	(17) $60\overline{)2{,}031}$	(18) $400\overline{)3{,}646}$	(19) $800\overline{)2{,}950}$	(20) $50\overline{)318{,}740}$
T 4,000	S 1,800	R 3,200	R 2,400	A 300,000
D 4,300	W 2,000	N 3,600	H 3,000	I 320,000
Y 4,500	P 2,400	S 3,700	P 3,200	E 350,000



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What Can We Learn From A Centipede?

1. Round the divisor to its greatest place.
2. Change the dividend to a number easy to divide by the rounded divisor.
3. Divide to estimate the quotient.

Use the procedure above to rewrite each exercise and estimate the quotient. Find your estimate at the bottom of the page. Write the letter of the exercise above it. (The first exercise has been done for you.)

(N) 2,341 ÷ 79
2,400 ÷ 80 = 30

(E) 3,625 ÷ 52

(I) 7,049 ÷ 88

(O) 246 ÷ 43

(A) 287 ÷ 68

(N) 5,518 ÷ 609

(H) 1,447 ÷ 314

(N) 49,068 ÷ 71

(I) 10,935 ÷ 36

(E) 41,140 ÷ 49

(N) 47,275 ÷ 783

(W) 79,800 ÷ 906

(Y) $63\overline{)3{,}209}$

(A) $789\overline{)5{,}711}$

(H) $27\overline{)5{,}926}$

(T) $21\overline{)79{,}500}$

(M) It is 318 miles from Los Angeles to Yosemite National Park. At an average speed of 41 miles per hour, about how many hours does it take to drive this distance?

(C) Kathy earns $26,190 per year as a designer. About how much does Kathy earn per week? (1 year = 52 weeks)

$ _____

(F) While running for office, Trix Smile shook 52,270 hands and kissed 3,509 babies. If his campaign lasted 88 days, estimate the average number of babies kissed each day.

							N																
5	6	90	6,000	8	4	30	50	3	40	70	800	4,000	900	80	700	10	7	9	9,000	300	60	500	200

Why Does It Take a Baseball Player So Long To Run From Second Base to Third Base?

Do each exercise and find your answer in the appropriate answer column. Write the letter of the exercise in the box containing the number of the answer.

ANSWERS **left side**

(17) 3 R2
(25) 3 R3
(4) 3 R5
(21) 4 R1
(2) 4 R2
(34) 5 R5
(10) 5 R7
(8) 6 R2
(30) 6 R4
(14) 7 R1
(5) 7 R2
(26) 8 R2
(11) 8 R1
(31) 9 R1
(22) 9 R3
(16) 9 R6

(S) $3\overline{)20}$ (T) $4\overline{)15}$ (D) $2\overline{)19}$ (E) $4\overline{)27}$ (O) $8\overline{)60}$ (T) $5\overline{)17}$

(H) $5\overline{)22}$ (O) $7\overline{)50}$ (E) $6\overline{)35}$ (H) $6\overline{)59}$ (L) $9\overline{)80}$ (N) $7\overline{)33}$

(I) $4\overline{)39}$ (R) $8\overline{)29}$ (T) $7\overline{)69}$ (E) $8\overline{)43}$ (P) $3\overline{)28}$ (I) $4\overline{)34}$

(A) $9\overline{)52}$ (E) $3\overline{)23}$ (H) $6\overline{)50}$ (S) $9\overline{)40}$ (M) $5\overline{)38}$ (T) $7\overline{)47}$

(I) $34 \div 5$ (S) $29 \div 9$ (D) $11 \div 2$ (R) $27 \div 6$

ANSWERS **right side**

(6) 3 R1
(1) 3 R2
(15) 4 R3
(12) 4 R4
(23) 4 R5
(32) 5 R1
(3) 5 R3
(27) 6 R3
(18) 6 R5
(29) 7 R3
(19) 7 R4
(7) 8 R2
(28) 8 R5
(33) 8 R8
(20) 9 R1
(13) 9 R5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34

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If the Sun Were Famous, Where Would It Go?

Do each exercise and find your answer in the answer columns. Write the letter of the answer in the box containing the number of the exercise. If the answer has a ●, shade in the box instead of writing a letter in it.

(1) $7\overline{)239}$	(2) $4\overline{)347}$	(3) $9\overline{)515}$	(4) $5\overline{)314}$	(5) $6\overline{)504}$
(6) $3\overline{)89}$	(7) $2\overline{)75}$	(8) $4\overline{)87}$	(9) $8\overline{)632}$	(10) $7\overline{)398}$
(11) $6\overline{)92}$	(12) $9\overline{)432}$	(13) $5\overline{)299}$	(14) $3\overline{)49}$	(15) $8\overline{)347}$

(S) 85 R2	(A) 57 R5
● 62 R4	(E) 86 R3
(L) 34 R1	(R) 63 R3
(T) 84	(O) 57 R2
(F) 21 R3	(A) 29 R2
(I) 57 R3	(S) 79 R5
● 79	(E) 37 R1
(T) 56 R6	(G) 24 R1
(R) 44 R6	(U) 16 R2
● 59 R4	(L) 43 R3
(F) 16 R1	(A) 15 R2
(O) 48	(E) 59 R1

(16) 146 ÷ 4

(17) 684 ÷ 7

(18) 65 ÷ 2

(19) The **Rockem** Band earned $390 for a performance. If the 6 band members divide the money equally, how much does each get?

$ _____

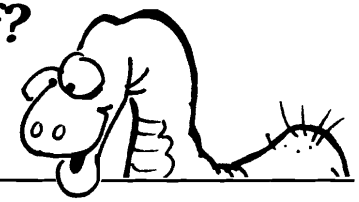
(20) **Myles** Tugo drove 441 miles from Buffalo to New York City. It took him 9 hours. What was his average speed?

_____ mph

(D) 67	● 36 R2
(C) 47	(M) 49
(H) 65	(H) 97 R5
	(E) 34 R1
	(L) 32 R1
	(R) 97 R1

●	10	3	13	5	17	7	9	19	11	15	1	16	12	8	4	14	18	6	20	2	●

What Is Green, Turns In Circles, and Scratches Itself?



Find the answer to each exercise in the set of answers under the exercise. Cross out the letter above each answer. When you finish, the answer to the title question will remain!

(1) $4\overline{)593}$ (2) $3\overline{)887}$ (3) $7\overline{)964}$

(4) $5\overline{)2{,}918}$ (5) $8\overline{)6{,}760}$ (6) $6\overline{)1{,}789}$

(7) $5{,}285 \div 9$ (8) $1{,}459 \div 4$

(9) Spa World advertised on the radio for 3 minutes on Saturday and 2 minutes on Sunday. The total cost was $3,375. What was the cost per minute?

(10) $7\overline{)4{,}801}$ (11) $3\overline{)954}$ (12) $8\overline{)5{,}917}$

(13) $2\overline{)905}$ (14) $6\overline{)4{,}420}$ (15) $9\overline{)6{,}159}$

(16) $972 \div 5$ (17) $6{,}587 \div 7$

(18) Dr. Drat had a hot tub built for $7,500. He made a down payment of $2,500 and then paid the balance in 8 equal payments. How much was each payment?

R	A	G	S	O	T	P	U	I	M	R	N	D	L	I	M	T	E	O	C	A	R	U	H	I	P
583 R3	298 R1	295 R2	844 R3	$675	845	$635	364 R3	585 R1	148 R1	587 R2	363 R2	137 R5	452 R1	737 R3	684 R3	195 R4	739 R5	$625	942 R3	194 R2	736 R4	685 R6	$645	941	318

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DAFFYNITION DECODER

1. Campaign: _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
11 16 18 7 2 11 12 1 5 4 14 13 10 12 15 6

2. Royalty: _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
2 11 14 7 14 17 16 5 5 15 9 18 12 15 3 8

TO DECODE THESE TWO DAFFYNITIONS: Do each exercise below. Find your answer in the appropriate answer column and notice the letter next to it. Each time the exercise number appears in the code, write this letter above it.

Answers 1–9:

- (P) 660 R2
- (C) 107
- (M) 805 R2
- (D) 930
- (L) 90 R1
- (T) 509 R2
- (E) 102 R2
- (R) 940 R2
- (K) 30 R5
- (N) 508 R1
- (S) 670 R4
- (W) 60 R3
- (G) 804 R3
- (U) 103 R5

(1) $4\overline{)361}$ (2) $5\overline{)303}$ (3) $8\overline{)245}$ (4) $6\overline{)642}$ (5) $9\overline{)920}$

(6) $7\overline{)5{,}631}$ (7) $3\overline{)1{,}529}$ (8) $8\overline{)5{,}364}$ (9) $5\overline{)4{,}650}$

(10) 4,225 ÷ 6

(11) 839 ÷ 4

(12) 3,427 ÷ 9

(13) 9,018 ÷ 3

(14) 4,937 ÷ 7

(15) 4,203 ÷ 5

(16) Dishes are packed 8 per box. How many boxes are needed for 400 dishes?

(17) Each kite requires 2 sticks. How many sticks are needed for 750 kites?

(18) The dividend is 8,158. The divisor is 9. Find the quotient.

Answers 10–18:

- (O) 706 R4
- (U) 50
- (I) 380 R7
- (B) 208 R1
- (N) 840 R3
- (R) 906 R4
- (M) 3,006
- (H) 209 R3
- (Y) 390 R6
- (P) 704 R1
- (F) 905 R7
- (Q) 1,500
- (V) 830 R2
- (A) 705 R2

Math Without Computing

$3\overline{)20}$ = 6 R2	$8\overline{)100}$ = 12 R4	$50\overline{)739}$ = 14 R39

Use the quotients in the box above to answer the following questions:

1	Scott has 100 stamps to put in an album. He puts 8 stamps on each page. A. How many pages will be completely filled? B. How many stamps will be left for an unfilled page? C. How many pages will be used altogether?
2	A group of 20 friends are going camping. They will sleep in tents that each hold 3 people. A. How many tents will be full? B. How many people will be left for a tent that is not full? C. How many tents will be needed altogether?
3	The 739 students and teachers at Merry Middle School are going on a field trip. Each bus holds 50 passengers. A. How many buses will be full? B. How many people will be left for a bus that is not full? C. How many buses will be needed altogether?
4	Hugo made 100 ounces of lemonade. How many 8-ounce glasses can he fill completely with this amount of lemonade?
5	An orchard has 739 apple trees to plant. If 50 trees are planted in each row, how many are left after the last complete row is planted?
6	The coach needs 20 tennis balls for a tournament. If tennis balls are sold in cans containing 3 balls, how many cans should the coach buy?
7	A total of 100 kids signed up to play soccer at the park. Each team has 8 players. Extra players are substitutes. How many substitutes are there?
8	Maria has $20 to rent video movies. If it costs $3 to rent each movie, how many movies can she rent?
9	A teacher needs 739 sheets of paper for a class project. The paper is sold in packs of 50 sheets each. How many packs should the teacher buy?

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Maze Phrase

Do each exercise and find your answers in the maze. SHADE IN each room that contains a correct answer.

Then find a path to the Treasure that goes only through rooms you have NOT shaded in. The words in those rooms will form an a-mazing message!

(1) 4,430 ÷ 6

(2) 8,869 ÷ 3

(3) 2,854 ÷ 7

(4) 16,298 ÷ 5

(5) 22,540 ÷ 8

(6) 27,962 ÷ 4

(7) 45,747 ÷ 9

(8) 42,765 ÷ 7

(9) 76,992 ÷ 2

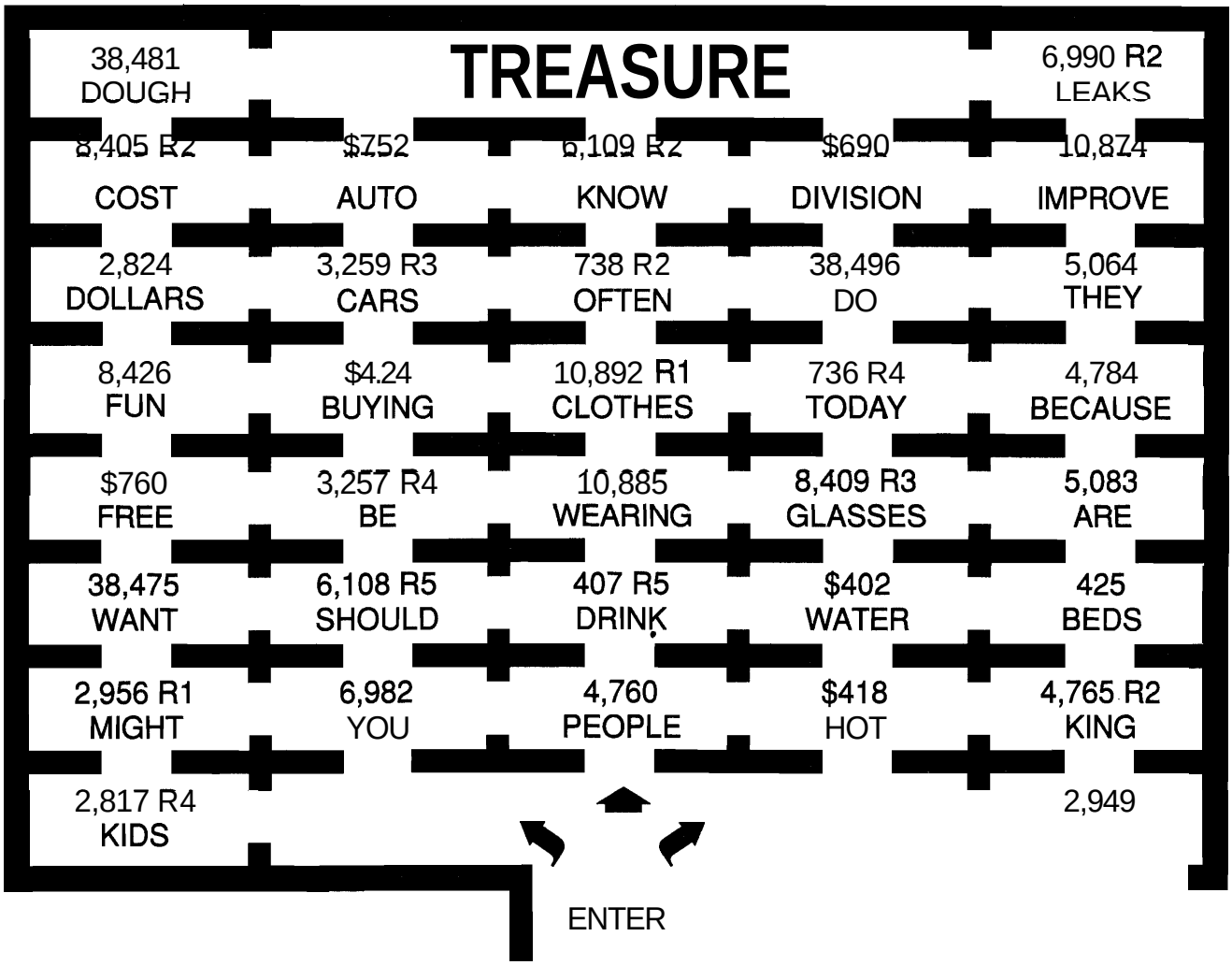
(10) 28,560 ÷ 6

(11) 25,217 ÷ 3

(12) 87,13718

(13) A school district received a grant of $6,840. The money was divided equally among the 7 elementary schools and 2 high schools in the district. How much did each school receive?

(14) The Schmaltz Band bought an amplifier for $1,260 and two speakers at $375 *each.* If the 5 members of the band divide the total cost equally, how much will each pay?



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How Are Canvas Sheets Attached to Ships?

Do each exercise and find your answer in the rectangle below. Cross out the box that contains your answer. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

(1) Deke, Zeke, and Geke each bowled three games.
A. What was Deke's average score?
B. What was Zeke's average score?
C. What was Geke's average score?

Name	Game 1	Game2	Game3
Deke	126	153	135
Zeke	109	82	97
Geke	127	138	155

(2) In 8 football plays, Grunge Helmet had gains of 5 yards, 12 yards, 7 yards, 0 yards, 3 yards, 4 yards, 15 yards, and 2 yards. What was his average gain per play?

(3) The scores of 4 students on 5 different tests are given in the table. Find the following:
A. The average of Sam's scores.
B. The average of Teri's scores.
C. The average of Kim's scores.
D. The average of the scores on Test 1.
E. The average of the scores on Test 4.

Name	Test 1	Test 2	Test 3	Test 4	Test 5
Sam	84	93	91	75	82
Teri	87	65	74	80	74
Andy	94	78	87	71	100
Kim	79	86	100	94	91

(4) Zorna ran 6 laps around a 440-yard track. Her lap times were 89 seconds, 93 seconds, 97 seconds, 102 seconds, 95 seconds, and 88 seconds. Find the following:
A. The average time for the first 3 laps.
B. The average time for the last 3 laps.
C. The average time for all 6 laps.

(5) A salesman for Tickle Toys travels in 4 different states. In 9 weeks, he traveled a total of 18,846 miles. Find the average number of miles he traveled per week.

(6) Elmo Buckets played in 7 basketball games. Altogether he scored 88 field goals (2 points each) and 13 free throws (1 point each). Find the average number of points Elmo scored per game.

(7) Racquet World sells an average of 45 tennis racquets per month. At this rate, how many racquets are sold in one year?

BO 86	LT 140	AT 95 s	WI 88	ND 540	PA 93 s	TH 490	AT 138	RY 76	SA 2,087	ND 27
IL 129	IT 85	MA 80	ST 8 yd	OP 2,094	EN 96	TR 90	AC 91 s	UP 94 s	KS 31	UN 6 yd

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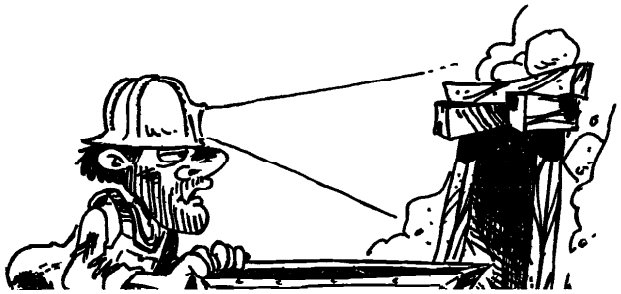

What's Wrong with Coal Miners Looking for Gold?

Do each exercise below. Find your answer in the appropriate answer column and notice the two letters next to it. Write these letters in the two boxes above the exercise number at the bottom of the page.

Answers 1–8:	
PA	76,108
NT	728 R4
BE	145,985
SH	4,653
LD	38 R4
SO	532,500
NI	8,313
SE	138,985
BU	41,013
RO	79,008
SS	729 R2
RE	39 R I
TH	549,500
LI	42,723

(1) $\begin{array}{r} 7{,}385 \\ +\ 928 \\ \hline \end{array}$

(2) $\begin{array}{r} 6{,}402 \\ -\ 1{,}749 \\ \hline \end{array}$

(3) $\begin{array}{r} 9{,}876 \\ \times\ 8 \\ \hline \end{array}$

(4) $\begin{array}{r} 785 \\ \times\ 700 \\ \hline \end{array}$

(5) $6\overline{)232}$

(6) $9\overline{)6{,}563}$

(7) $\begin{array}{r} 55{,}294 \\ 87{,}610 \\ 2{,}385 \\ +\ 696 \\ \hline \end{array}$

(8) $\begin{array}{r} 837 \\ \times\ 49 \\ \hline \end{array}$

(9) $40{,}000 \div 8$

(10) $(53 \times 100) - (72 \times 10)$

(11) $4^3 \times 3^4$

(12) $7\overline{)4{,}931}$

(13) $8\overline{)23{,}761}$

(14) $30\overline{)24{,}000}$

(15) Estimate the quotient: $54{,}290 \div 904$

(16) Rex Robot Co. shipped 38 HotBots and 20 RotBots. Each HotBot weighs 15 kg, and each RotBot weighs 9 kg. What was the total weight of the shipment?

(17) Coach McDuff invited 30 kids to a picnic. He wants to have 2 hot dogs for each kid. If hot dogs come in packs of 8, how many packs should he buy?

Answers 9–17:	
AN	705 R1
NE	5,184
SH	690 kg
NG	60
IS	2,971 R5
TH	5,000
OU	704 R3
WN	800
MI	**8**
EY	4,580
SI	750 kg
EI	2,970 R1
CA	9
ST	50

4	10	2	12	5	7	17	1	15	9	13	3	14	8	16	11	6

Why Do Dragons Sleep During The Day?

Solve each problem below and find your solution in the answer column. Write the letter of the answer in each box containing the number of the problem.

(1) During winter vacation the 5 members of the Scott family went on vacation to a ski resort. They drove 336 miles in 7 hours. What was their average speed?

(2) The Scotts rented a condominium at the resort for 6 nights. The price was $120 per night for 2 people, plus $15 per night for each additional person.
   A. How much did the Scotts pay per night?
   B. How much did the Scotts pay for 6 nights?

(3) Lift tickets at the resort cost $28 per day for adults and $19 per day for children under 12. The Scotts skied for 5 days.
   A. How much did the Scotts pay for lift tickets each day?
   B. How much did the Scotts pay for lift tickets altogether?

(4) The top of the mountain has an elevation of 11,640 feet. How much higher is this than the base of the ski area, which has an elevation of 8,385 feet?

(5) The ski resort has 9 chairlifts. Each chairlift has a capacity of 870 people per hour. The lifts operate 7 hours per day.
   A. What is the total lift capacity per hour?
   B. What is the total lift capacity per day?

(6) One evening the Scotts went to the Chalet Restaurant for dinner. The bill was $67.65. Mr. Scott paid with four $20 bills. How much change should he have received?

(7) A total of 19,035 people skied at the resort during the 5 days that the Scotts skied. What was the average number of skiers per day?

(8) During their vacation the Scotts took 173 pictures. They put them in an album with 6 pictures on each page.
   A. How many pages were completely filled?
   B. How many pictures were left for an unfilled page?

The Scott Family

name	age
Mr.Scott	40
Mrs. Scott	39
Dan Scott	14
Susan Scott	13
Mike Scott	10

Answers:

W	$158	P	24
E	$165	N	5
M	$835	O	$131
I	$655	T	28
S	$990	R	2
K	3,807		
U	48 mph		
B	3,345 ft		
G	7,830		
F	55,910		
H	$12.35		
A	3,814		
D	$13.45		
Y	3,255 ft		
C	8,130		
L	54,810		
V	45 mph		

8A	6	2A	4	5B	3B	7	2A	8A	3A	6	1	8B	8A	7	8B	3B	5A	6	8A	2B

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Did You Hear About ...

A	B	C	D	E	F
G	H	I	J	K	L
M	N	O	P	Q	R ?

Do each exercise and find your answer in the appropriate answer column. Notice the word under the answer. Write this word in the box containing the letter of the exercise.

Answers A–I:

6 R29 FROM
8 TO
54 R18 HIS
9 R17 FIT
4 R 9 THE
6 R13 WHO
17 R21 HAIR
24 R11 GO
9 R33 HAD
7 R28 KID
23 R6 GET
16 R32 WORK
5 R56 FINALLY
55 R3 SOME

(A) $30\overline{)129}$ (B) $80\overline{)588}$ (C) $50\overline{)313}$

(D) $90\overline{)506}$ (E) $40\overline{)393}$ (F) $60\overline{)480}$

(G) $70\overline{)1,616}$ (H) $30\overline{)1,638}$ (I) $40\overline{)701}$

(J) $90\overline{)3,480}$ (K) $50\overline{)4,600}$ (L) $80\overline{)4,834}$

(M) 1,891 ÷ 20

(N) 15,207 ÷ 60

(O) 53,875 ÷ 70

(P) 16,327 ÷ 40

(Q) A recycling center received 3,250 pounds of newspaper. It was tied in 50-pound bundles. How many bundles were there?

(R) Traveling at 40 miles per hour, a car uses 30 gallons of gas to travel 810 miles. What is the average number of miles per gallon?

Answers J–R:

769 R45 STAND
409 R23 TO
93 R3 TIME
65 ANY
94 R11 MOTHER
24 SHAMPOO
92 BECAUSE
27 LONGER
62 THAT
253 R27 COULDN'T
408 R7 IT
38 R60 CUT
768 R9 WASH
60 R34 HIS

How Do You Find a Missing Train?

Do each exercise and find your answer to the right. Write the letter of the answer in the box containing the number of the exercise. If the answer has a ●, shade in the box instead of writing a letter in it.

① $32\overline{)108}$

② $79\overline{)165}$

③ $47\overline{)164}$

④ $93\overline{)505}$

⑤ $63\overline{)268}$

⑥ $81\overline{)570}$

⑦ $56\overline{)237}$

⑧ $24\overline{)224}$

⑨ $37\overline{)250}$

⑩ $73\overline{)434}$

⑪ $17\overline{)70}$

⑫ $69\overline{)552}$

⑬ $44\overline{)347}$

⑭ $95\overline{)935}$

⑮ $39\overline{)93}$

⑯ $86\overline{)628}$

⑰ $50\overline{)448}$

⑱ $62\overline{)191}$

⑲ $456 \div 76$

⑳ $172 \div 29$

㉑ Eric took 144 pictures while on a 5-day camping trip. He used film with 36 pictures on each roll. How many rolls of film did he use?

㉒ Hilary is cutting strips of crepe paper to decorate for a party. Each strip is 42 inches long. If she has 400 inches of crepe paper left on a roll, how many 42-inch strips can she cut?

13	2	17	7	5	21	3	15	19	12	1	10	6	18	9	14	11	22	8	16	20	4

S	5 R40	U	2 R7
G	4 R29	E	7 R19
Y	6 R31	●	4 R16
W	3 R12	O	3 R23
I	7 R3	V	5 R8
N	2 R14	B	3 R18
P	6 R29	M	8 R59
●	5 R69	T	4 R13
A	9 R8	H	7 R16
O	8	D	5 R38
X	4 R26	S	6 R28
T	4 R2	E	9 R13
N	7 R18	T	3 R5
P	8 R19	L	2 R15
●	9 R80	Y	6 R42
E	3 R24	S	8 R48
J	7 R39	G	9 R36
B	2 R6	C	7 R26
S	8	K	5 R27
H	5	F	4
L	6	E	5 R14
R	9	N	6 R9

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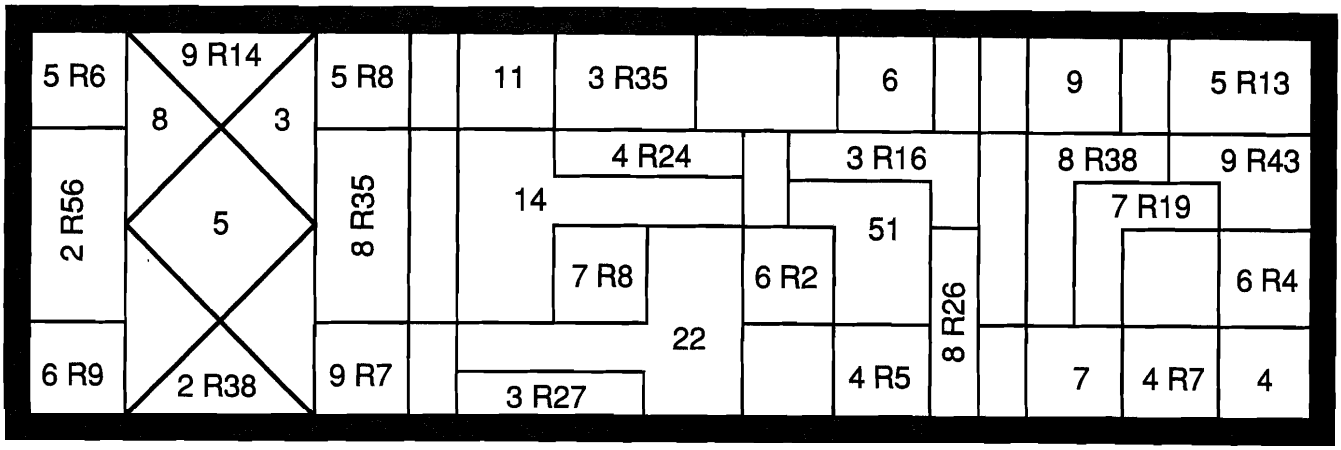
Favorite Class at Caterpillar School



The name of the FAVORITE CLASS AT CATERPILLAR SCHOOL is hidden in the rectangle above. To find it, do each exercise and locate your answers in the rectangle–Shade in each area containing a correct answer.

① $28\overline{)117}$ ② $31\overline{)236}$ ③ $66\overline{)338}$ ④ $47\overline{)466}$

⑤ $94\overline{)309}$ ⑥ $56\overline{)486}$ ⑦ $72\overline{)441}$ ⑧ $35\overline{)164}$

⑨ $89\overline{)623}$ ⑩ $17\overline{)91}$ ⑪ $63\overline{)539}$ ⑫ $40\overline{)136}$

⑬ $493 \div 54$ ⑭ $250 \div 97$ ⑮ $160 \div 26$

⑯ Steve has 276 slides to store in carousels. Each carousel holds 75 slides.
A. How many carousels will be completely filled?
B. How many slides will be left for an unfilled carousel?
C. How many carousels will be needed altogether?

⑰ There will be 142 people at the Goldenglob wedding reception. There is room for 16 people at each table.
A. How many tables will be full?
B. How many people will be left for an additional table?
C. How many tables will be needed altogether?

⑱ Mr. Jolly is building a fence around his yard, a distance of 272 feet. Each roll of fencing is 50 feet long and costs $69.
A. How many rolls of fencing should Mr. Jolly buy?
B. How many rolls will be completely used?
C. How many feet of fencing will be used from the last roll?

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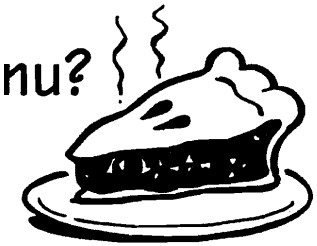
What Is the Most Expensive Thing on Any Restaurant's Menu?

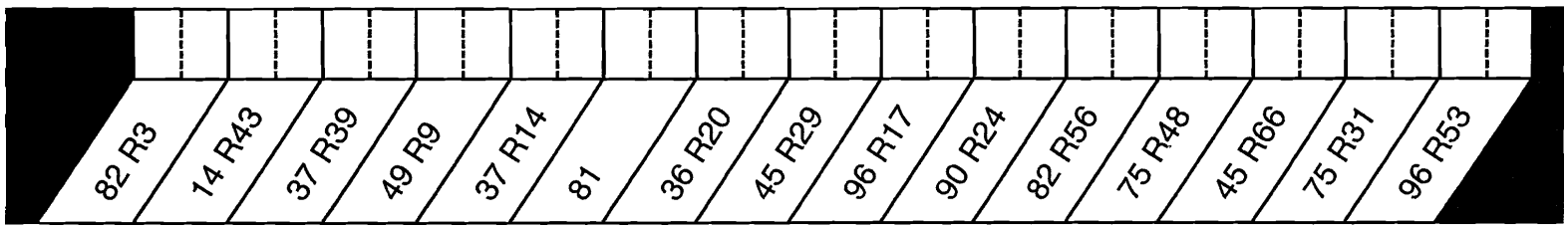


You will divide by 67 in all of the exercises on this page. Use the table of multiples of 67 to help you. Do each exercise and find your answer at the bottom of the page. Write the letters next to the exercise in the two spaces above the answer.

67 × 0	67 × 1	67 × 2	67 × 3	67 × 4	67 × 5	67 × 6	67 × 7	67 × 8	67 × 9
0	67	134	201	268	335	402	469	536	603

UR $67\overline{)2432}$ **UP** $67\overline{)5056}$ **TY** $67\overline{)3292}$ **OT** $67\overline{)5550}$ **TW** $67\overline{)981}$

CA $67\overline{)6449}$ **SO** $67\overline{)3081}$ **FO** $67\overline{)5427}$ **EN** $67\overline{)2518}$ **RR** $67\overline{)6054}$



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Crack the Code

A CRYPTIC MESSAGE is written in code at the bottom of the page. To decode: Do each exercise below. Find your answer in the answer column and notice the symbol next to it. Each time this symbol appears in the code, write the letter of the exercise above it.

(L) $37\overline{)246}$

(E) $84\overline{)691}$

(D) $56\overline{)440}$

(U) $23\overline{)886}$

(S) $45\overline{)3,290}$

(H) $69\overline{)3,903}$

(Y) $72\overline{)6,120}$

(P) $34\overline{)2,069}$

(V) $91\overline{)3,294}$

(C) $88\overline{)4,795}$

(W) $53\overline{)2,523}$

(G) $65\overline{)6,038}$

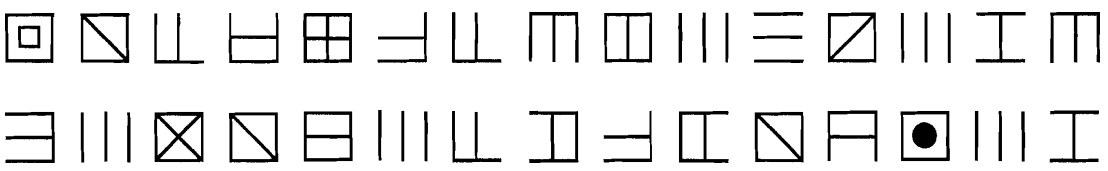
(N) $3{,}738 \div 49$

(A) $7{,}023 \div 87$

(I) Mode Middle School spent $4,060 on new tables and $944 on new chairs. Each table cost $70. How many tables did the school buy?

	38 R12
	55
	92 R58
	56 R39
	8 R8
	58
	75 R26
	6 R24
	60 R29
	7 R48
	37 R7
	92 R36
	54 R43
	73 R5
	84 R51
	47 R19
	76 R14
	85
	80 R63
	8 R19
	47 R32
	36 R18

CRYPTIC MESSAGE



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What Is A Cow On Sale?

Do each exercise below. Find your answer in the answer column and notice the letter next to it. Look for this letter in the string of letters near the bottom of the page and CROSS IT OUT each time it appears. When you finish, write the remaining letters in the rectangle at the bottom of the page.

(1) $64\overline{)1,736}$ (2) $39\overline{)2,131}$ (3) $85\overline{)7,114}$

(4) $18\overline{)6,282}$ (5) $26\overline{)7,425}$ (6) $57\overline{)23,803}$

(7) $78\overline{)73,204}$ (8) $43\overline{)25,485}$ (9) $96\overline{)67,788}$

(10) 11,721 ÷ 67

(11) 26,256 ÷ 32

(12) Cash Bucks invested $33,350 in shares of TNT Corporation stock. Each share cost $89. How many shares did he buy?

(13) The Eiffel Tower in Paris is 985 feet tall and has 1,792 steps. If you climb at the rate of 56 steps per minute, how many minutes will it take to reach the top?

(14) A printer has 800 inches of paper left on a roll. The paper will be cut into sheets 48 inches long. How many full sheets can the printer cut?

(P) 939 R22
(H) 592 R29
(L) 28
(W) 150
(M) 417 R34
(D) 83 R59
(E) 284 R6
(V) 27 R8
(O) 16
(U) 174 R63
(B) 938 R40
(C) 821 R7
(G) 54 R25
(S) 32
(K) 285 R15
(A) 593 R13
(T) 706 R12
(N) 820 R16
(F) 174 R37
(Y) 349
(I) 417 R49
(R) 152

B D S C O W A S M L T V K F U P G H O R N S M I O Y C K T G E N

ANSWER TO PUZZLE:

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MIDDLE SCHOOL MATH WITH PIZZAZZ! BOOK A
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Overheard Conversation

1st Little Pig:	8		13	14	9	14	1		17	16	7	17	16	3	14		11	14	16	4
2nd Little Pig:	6	14	17		8	12		16	5	12	2	17	4		10	16	15	2	13	!

TO DECODE THIS CONVERSATION: Do each exercise below and find your answer in the appropriate answer column. Write the letter of the answer in each box containing the number of the exercise.

(1) $\begin{array}{r} 9{,}470 \\ -\ 3{,}661 \\ \hline \end{array}$

(2) $\begin{array}{r} 2{,}896 \\ \times\ \ 6 \\ \hline \end{array}$

(3) $\begin{array}{r} 67{,}000 \\ -\ 25{,}933 \\ \hline \end{array}$

(4) $\begin{array}{r} 938 \\ \times\ 900 \\ \hline \end{array}$

(5) $47\overline{)245}$

(6) $83\overline{)803}$

(7) $29\overline{)133}$

(8) $\begin{array}{r} 364{,}038 \\ 487{,}167 \\ +\ 25{,}995 \\ \hline \end{array}$

(9) $80 \times 60 \times 40 \times 20$

(10) $(95 \times 1000) - (34 \times 100)$

(11) $700\overline{)42{,}000}$

(12) $52{,}230 \div 9$

(13) $2{,}405 \div 65$

(14) $6{,}317 \div 91$

(15) $28{,}734 \div 33$

(16) In 1519 Ferdinand Magellan set sail with 5 ships on the first voyage around the world. There were 48 men for each ship when the voyage began, but 222 men and 4 ships were lost before it ended in 1522. How many men completed the voyage?

(17) in 1961 Yuri Gagarin became the first man to orbit the earth. He traveled for 108 minutes at an average speed of 235 miles per minute. How many miles did he travel?

Answers 1–8

- (C) 5,419
- (L) 5 R10
- (D) 861,200
- (A) 4 R26
- (R) 5,809
- (H) 16,976
- (T) 844,200
- (G) 41,067
- (Y) 9 R56
- (I) 877,200
- (O) 17,376
- (S) 42,767
- (U) 4 R17
- (N) 9 R18

Answers 9–17

- (N) 37
- (W) 910,000
- (D) 871 R5
- (H) 60
- (S) 25,380
- (E) 69 R38
- (M) 5,803 R3
- (B) 91,600
- (P) 26,180
- (C) 870 R24
- (F) 69 R19
- (V) 3,840,000
- (A) 18
- (K) 5,817 R7

What Do You Call A Frog That's Stuck in the Mud?

Solve each problem and find your answer at the bottom of the page. Cross out the letter above each correct answer. When you finish, the answer to the title question will remain.

11 The Flyck Theater has 38 rows of seats on the main floor. There are 26 seats in each row. How many seats are on the main floor altogether?

2 There are 234 seats in the balcony of the Flyck Theater. There are 13 rows with the same number of seats in each row. How many seats are in each row?

3 The chart shows the number of films of certain types shown at the Flyck Theater in the last 10 years. How many more comedies than action films were shown?

	Number
Comedy	
Drama	244
Action	138

4 Last week the theater had a double feature. The first film lasted 119 minutes. The second film lasted 107 minutes. There was a 15-minute intermission between films. How long was the entire program?

5 A total of 2,694 adults and 980 children bought tickets at the Flyck Theater last week. Each adult ticket cost $6. How much was paid for the adult tickets altogether?

6 The manager of the Flyck Theater earned $29,640 last year. How much did he earn per week? (1 year = 52 weeks)

7 Film travels through a projector at a rate of 170 feet per minute. How many feet of film are in a motion picture that lasts 120 minutes?

8 One night, the Flyck gave a prize to every 25th person who bought a ticket. A total of 610 people bought tickets.
A. How many prizes were given?
B. How many people bought tickets after the last person who won a prize?

9 In a recent year there were 18,772 movie theaters in the United States. Of these, 15,837 were indoor theaters and the rest were drive-ins. How many drive-in theaters were there?

R	M	U	A	D	N	H	I	O	N	T	P	E	P	R	Y	D
24	241 min	$18,264	$570	988	17,400	21	2,935	2,744	223	20,400	$566	10	938	$16,164	211 min	18

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What Kind of Monkeys Like French Fries?

Do each exercise and find your answer in the rectangle below. Cross out the box that contains your answer. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

1. The County Fair was held for 9 days during August. A total of 26,010 people came to the fair. What was the average attendance per day?

2. The price of admission to the fair was $4 for adults and $1 for children. On opening day, 3,576 people attended the fair, including 1,830 children.
   A. How many adults attended the fair on opening day?
   B. How much was paid for admission that day altogether?

3. The fair director bought advertising in the local newspaper. He bought 10 half-page ads at $240 each and 3 full-page ads at $390 each. How much was paid for these ads altogether?

4. The high temperatures for each day of the fair, in degrees Fahrenheit, were as follows: 85, 78, 80, 87, 93, 90, 84, 87, 81. Find the average of all these temperatures.

5. Ramon worked selling refreshments at the fair. He worked 8 hours a day for 9 days and earned a total of $432. How much did Ramon earn per hour?

6. For lunch Jonathan ordered a cheeseburger for $2.45, French fries for 85¢, and a milkshake for $1.35. He paid with a $20 bill. How much change should he have received?

7. There was a Ferris wheel at the fair. Becky read that the original Ferris wheel was built in 1893 at the Midway, Chicago. The wheel was 250 feet in diameter and had 36 cars, each seating 60 people. How many people could ride at the same time?

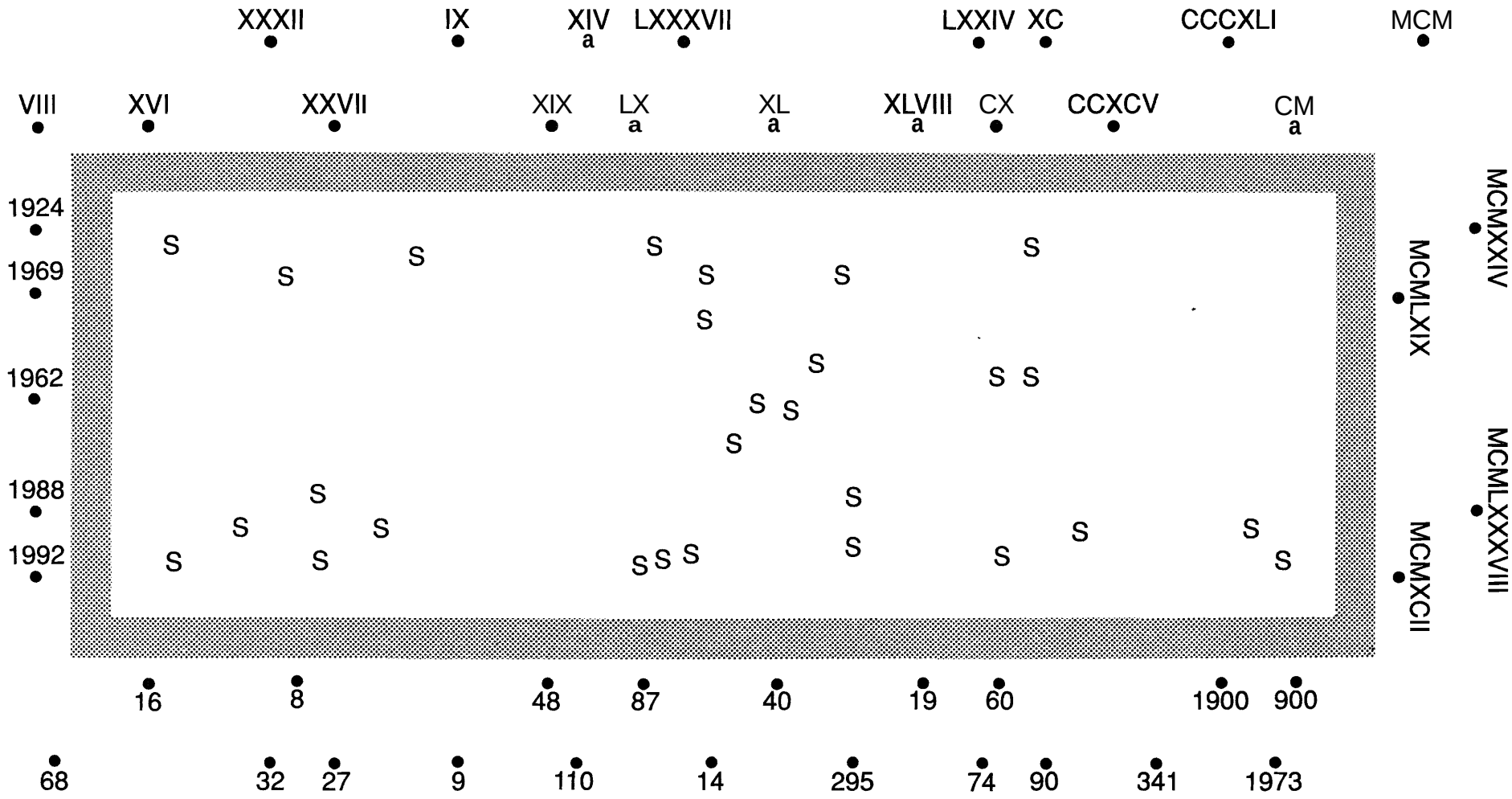
8. Corrals were built for sheep brought to the fair. Each corral could hold 75 sheep, and there was space for 1,350 sheep altogether. How many corrals were built?

9. Mrs. Penner made a quilt to enter in a competition at the fair. First she made colorful squares, using 16 pieces of fabric for each square. Then she sewed the squares together. The quilt had 12 rows of squares with 8 squares in each row. How many pieces of fabric were used altogether?

AP	AS	ES	PO	ST	OR	TA	PE
$8,814	$15.35	85°	$4	2,890	1,536	$4,540	$6
TO	CH	EW	SL	IM	ES	LI	PS
16	$14.45	18	$3,570	2,750	1,746	2,160	83°

What Did Emperor Klodius Numerus Say About His Ability With Roman Numerals?

Draw a straight line connecting each Roman numeral with its value. When you finish, you will notice that some areas inside the rectangle contain an "S," which stands for "shade." Shade in all of these areas. The answer to the title question will appear.



MIDDLE SCHOOL MATH WITH PIZZAZZ! BOOK A
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MIDDLE SCHOOL MATH WITH PIZZAZZ! BOOK A
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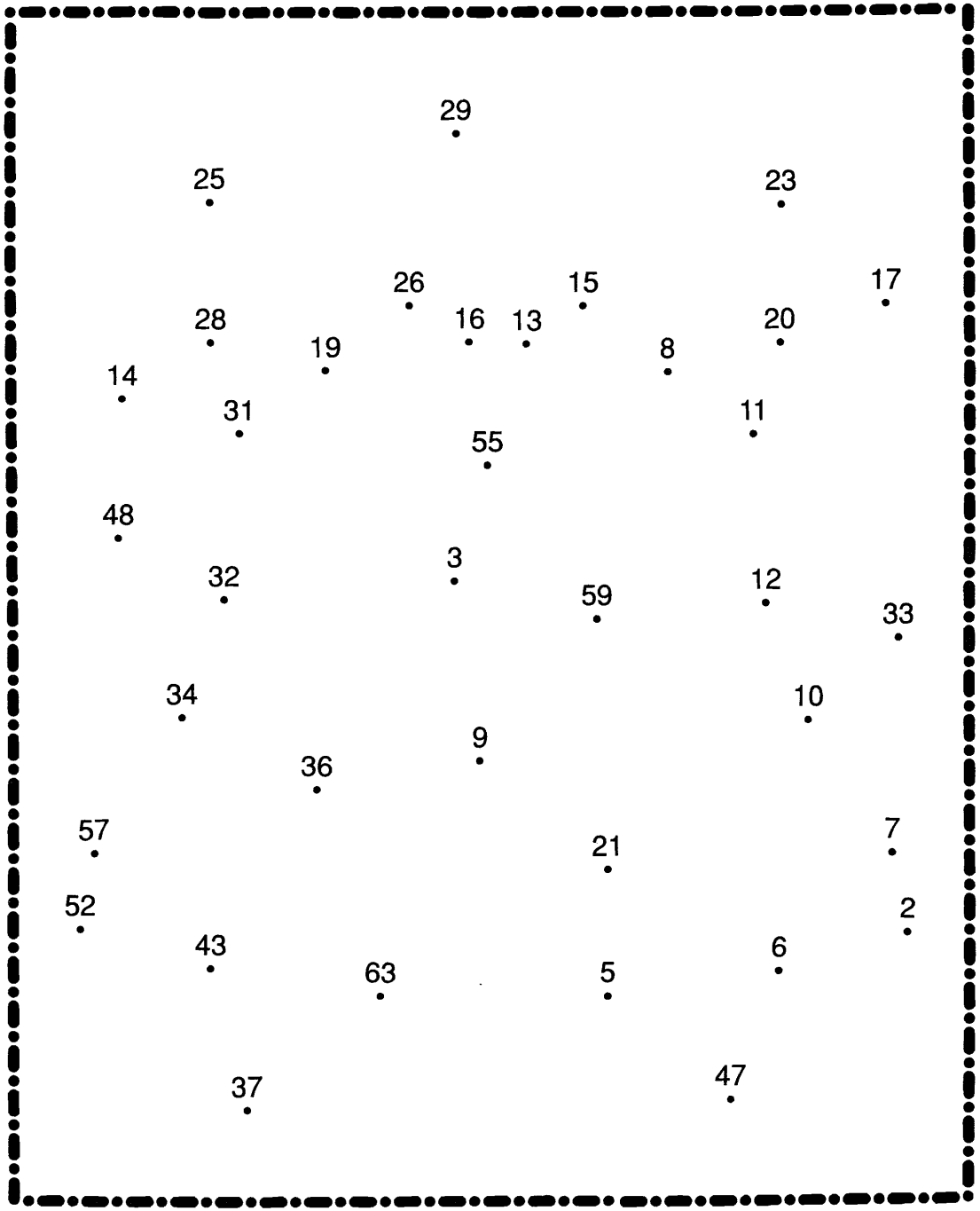


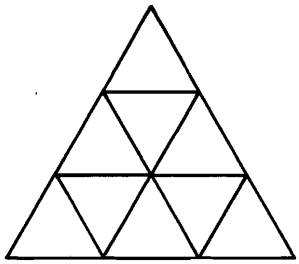
DOT PLOT

Write the base ten numeral for each base two numeral below. Find your answers to the left. Start with the first answer. Connect the dots by the answers, in order. It's a crackup!

(1) 101_{two} ____
(2) 110_{two} ____
(3) 10_{two} ____
(4) 111_{two} ____
(5) 1010_{two} ____
(6) 1100_{two} ____
(7) 1011_{two} ____
(8) 1000_{two} ____
(9) 1101_{two} ____
(10) 1111_{two} ____
(11) 10100_{two} ____
(12) 10111_{two} ____
(13) 11001_{two} ____
(14) 11100_{two} ____
(15) 11010_{two} ____
(16) 10000_{two} ____
(17) 10011_{two} ____
(18) 11111_{two} ____
(19) 100000_{two} ____
(20) 100010_{two} ____
(21) 111001_{two} ____
(22) 110100_{two} ____
(23) 101011_{two} ____
(24) 111111_{two} ____
(25) 101_{two} ____
(26) 10101_{two} ____
(27) 1001_{two} ____
(28) 11_{two} ____

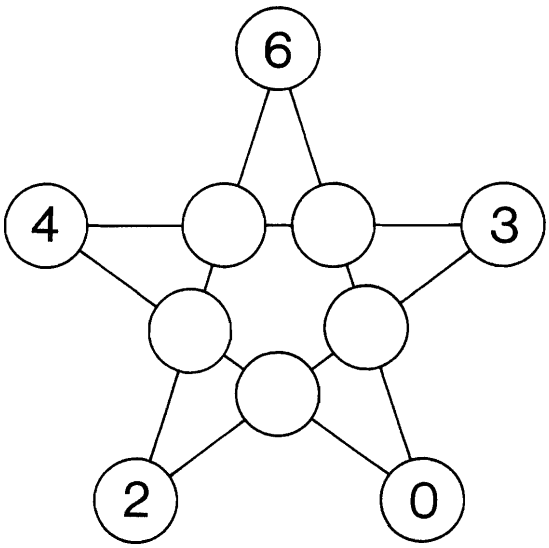
Test of Genius

a How many triangles can you count in this figure?



2 One hundred automobiles were lined up bumper-to-bumper. How many bumpers were actually touching each other?

3 Fill in the circles with the numbers 1, 2, 3, 4, and 5 so that no matter which line is added, the sum of the four numbers will be 12.



4 A baseball team played 150 games. It won 30 more games than it lost. How many games did the team lose?

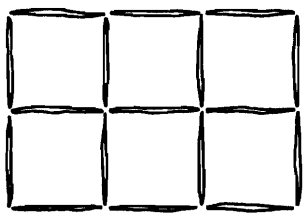
5 A pogo stick cost $30. A scooter cost $40 more than the pogo stick. A bicycle cost $50 more than the scooter. What was the total cost of all three?

6 In the following subtraction problem, the letters A, B, and C stand for three different digits. What digit should replace each letter?

$$\begin{array}{r} A\,B\,A \\ -\quad C\,A \\ \hline A\,B \end{array}$$

7 Four trees lived in a row in Happy Forest. They were red, green, yellow, and blue. The red tree was not next to the green tree. The blue tree was to the right of the green tree. The yellow tree was first. In what order were the trees lined up?

8 The toothpicks in the drawing have been arranged to form six squares. Which five toothpicks can be removed to leave only three squares?



9 You have 10 dollars. If you give away all but 3 dollars, how many dollars do you have left?

SCORING KEY

8 or 9 — *Superstar Genius*
6 *or 7* — *Star Genius*
4 or 5 — *Genius*
3 or less — *Genius* of *the Future*

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