Math from EPS

Sampler for Grades 4–8

EPS

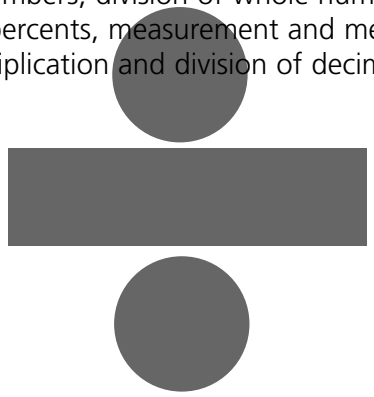
Math for grades 4–8

It's Elementary! 275 Math Word Problems
Books 2 & 3 and the Companion Book Grades 4–5
M.J. Owen

This popular series is based on problem-solving strategies the author has successfully used in her own classroom. Books 2 and 3 teach fourth and fifth graders a reliable method for analyzing, solving, and demystifying word problems. Each of the four operations is covered: addition, subtraction, multiplication, and division. Also included is a chapter on picture graphs, bar graphs, and charts. The first few problems of each section are appealingly illustrated to provide students with visual reinforcement. Students learn to identify key words, disregard unnecessary information, and eventually draw their own pictures to solve problems. In later sections, students are asked to create and solve their own word problems, and to explain the steps they've taken to reach a solution. Mixed exercises further challenge students. A companion book for the series, *It's Elementary!: Reasoning, Estimating, and Rounding,* follows the format of Books 2 and 3. An answer key is available.

Building Mathematical Thinking: Skinny Concepts
Book 2 & 3 Grades 4–5
Marsha Stanton

This new math program takes curriculum topics and breaks them down into a series of manageable "skinny" (1-2 page) lessons, each building on the concept learned in the previous lesson. Even in a heterogeneous group all students will feel that they are moving ahead each day. Each lesson begins with an example equation or problem with the steps for completing it written out. Many examples are illustrated to help students visualize the concept. Students are encouraged to seek and write down "patterns" or "secrets" they notice in these examples that may help them when they are completing the exercises. Book 2 is suitable for fourth graders and covers the addition, subtraction, multiplication, and division of whole numbers; place value, fractions, decimals, and geometry. The Teacher's Journal contains answers to the exercises, suggested activities, supplemental exercises, and sample tests for each chapter. Book 3 for grade 5 covers number theory: primes, composites, multiplication of whole numbers, division of whole numbers, addition and subtraction of fractions, decimals and place value, ratio-intro to percents, measurement and metrics, geometry including solids, multiplication and division of fractions, and multiplication and division of decimals.



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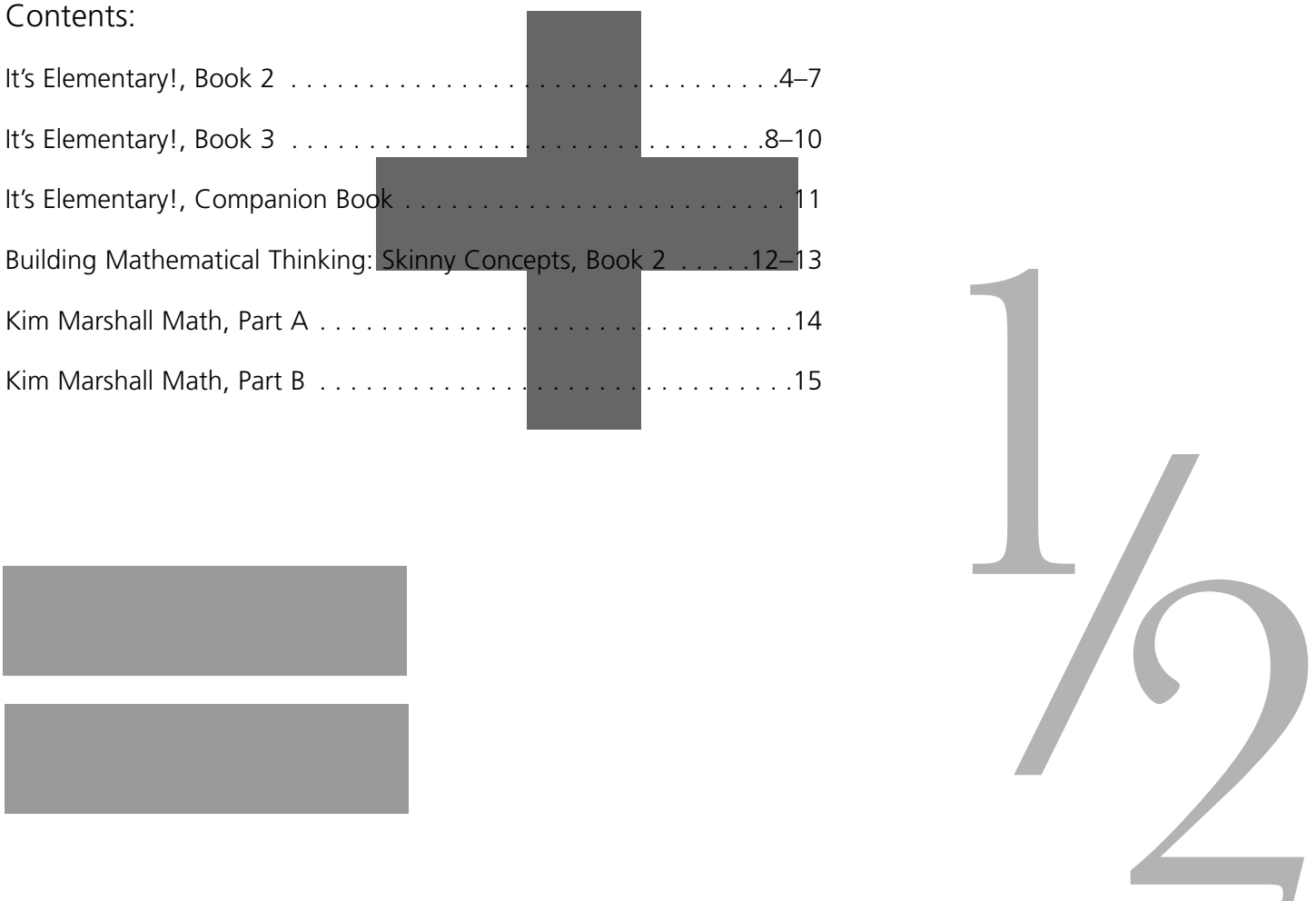
The Kim Marshall Series: Math
Parts A & B Grades 4–8
Kim Marshall

Intended to supplement a regular mathematics program, the thirty-five cumulative units in this program present math concepts in language that students understand and use every day. Directions are simple enough to allow students to be self-sufficient much of the time. Theory and generalizations are minimized; practice and application are stressed. Each of the one-week units covers a specific skill or body of information. Instructional pages slowly introduce the material, build mastery of the skill, and prepare for the unit test. Teacher's Manuals provide a thorough introduction to the program, instructions on how to administer and score the unit tests and review tests, and answers to all exercises in the books. The suggested grade levels for this program are 4–8.

The Kim Marshall Series: Math Part A covers basic computation skills, factors, averaging, Roman numerals, English and metric measurements, and graphing.

The Kim Marshall Series: Math Part B covers exponents, fractions, ratios, mixed numbers, percentages, and geometry.

Contents:



Solving Multiplication Word Problems with TINS

Are multiplication word problems getting you down? Get ready to shine: TINS is here! Below are some key words that appear in multiplication word problems.

- groups (and other words that are kinds of groups)
  Examples: groups of campers, batches of cookies, bunches of grapes, bags of groceries, litters of kittens
- each Each is a tricky key word because it shows up in division problems, too. You'll know you are most likely reading a multiplication problem if each shows up with one of its buddies: altogether, in all, or total.

Do you know any other multiplication key words? If you do, you can add them to the list.

When you see a multiplication key word in a problem, circle it and write x above the key word. Then write x on the THOUGHT line. Next, circle and write down the important INFORMATION from the word problem. Sometimes it helps to draw a picture of the important information. Now write your information as a NUMBER SENTENCE. Then plug your answer into your SOLUTION SENTENCE.

Example: Rosalie baked 4 batches of muffin. There were 6 muffins in each batch. How many muffins did Rosalie bake in all?

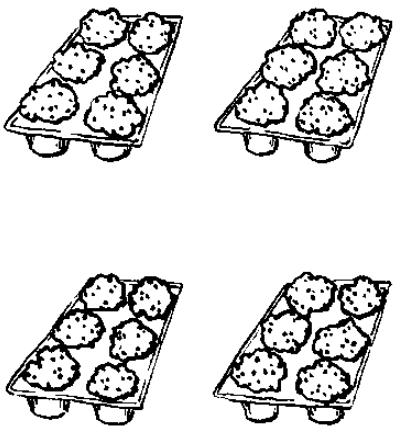
Thought: x

Information: 4 batches, 6 in each batch

Number Sentence: 4 x 6 =

Solution Sentence: Rosalie baked 24 muffins in all.

WORK SPACE



Write Your Own I

Use the information provided to write your own multiplication word problems. Use TINS to solve each problem. Challenge your friends to solve some of the problems you create!

Example: Hsi-Chang has 4 plates of cookies. There are seven cookies on each plate.

Question: Hsi-Chang baked oatmeal raisin cookies. He put seven cookies on four different plates. How many oatmeal raisin cookies does Hsi-Chang have in all?

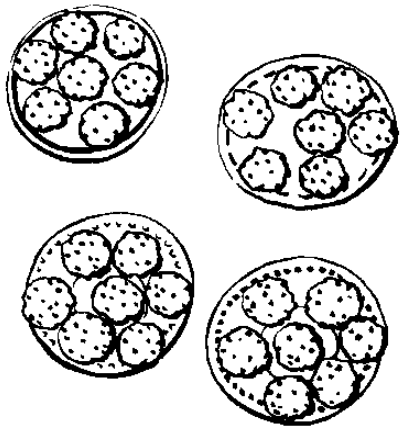
Thought: x

Information: 7 cookies, 4 plates

Number Sentence: 7 x 4 =

Solution Sentence: Hsi-Chang has 28 oatmeal cookies in all.

WORK SPACE



1. Johanna has four cats. Each cat has two bells on its collar.

Question: _____

_____

Thought: _____

Information: _____

_____

Number Sentence: _____

Solution Sentence: _____

_____

WORK SPACE

20. Leona loves orange juice. She drinks four glasses of orange juice for breakfast every morning. How many glasses of orange juice will Leona drink in three days?

WORK SPACE

T: _____

I: _____

_____

N: _____

S: _____

_____

21. Craig has 57 CDs in his collection. He wants to take as many as he can on vacation. His CD wallet has 12 pages. Each page holds 4 CDs. How many CDs can Craig take with him?

WORK SPACE

T: _____

I: _____

_____

N: _____

S: _____

_____

3. Rita has 6 sisters. Each sister has exactly 4 children. How many nieces and nephews does Rita have?

T: _____

I: _____

_____

N: _____

S: _____

_____

WORK SPACE

4. Mr. Pina subscribed to 4 different magazines. At the end of the year he will have received 12 issues of each magazine. How many magazines will he have?

T: _____

I: _____

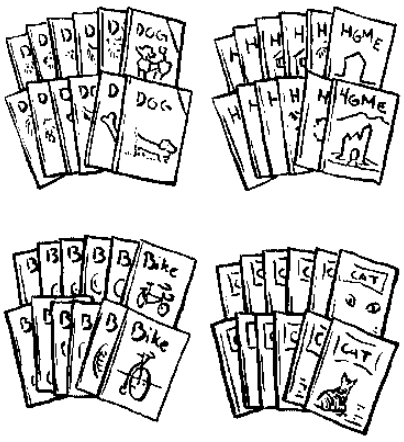
_____

N: _____

S: _____

_____

WORK SPACE



Try It Out

Use TINS to solve these word problems. Remember to circle key words and draw pictures. The first 3 problems have pictures to help you.

1. Sitting on a riverbank in the sun, a pride of 18 lions were relaxing. By nightfall the pride had separated into 3 equal groups. How many lions are in each group?

WORK SPACE

Thought: _____

Information: _____

_____

Number Sentence: _____

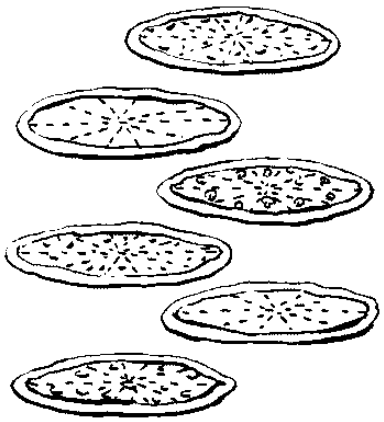
Solution Sentence: _____

_____

_____

2. Barbara buys 6 large pizzas for her party. The pizzas are cut into a total of 60 slices. Barbara wants to share the pizza slices equally among her 10 friends. How many pieces of pizza will each person get?

WORK SPACE



T: _____

I: _____

_____

N: _____

S: _____

_____

2. Bar graph: Ms. Garcia and Ms. Ashcroft are keeping track of the number of people who exercise each day at the health club. Below is a list of the top 6 fitness activities at the health club.

Treadmill	25 people
Weights	23 people
Biking	20 people
Swimming	13 people
Resistance machines	10 people

How many people used the weights, treadmill, and bicycles altogether?

T: _____

I: _____

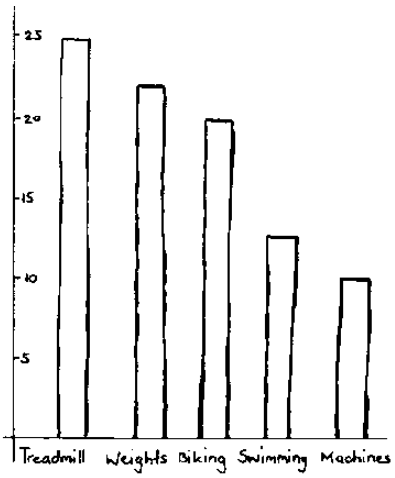
_____

N: _____

S: _____

_____

WORK SPACE



3. Chart: A musical just finished touring four Texas cities. Below is a record of the number of people that attended the play in each city.

Play attendance

San Antonio	456 people
Austin	544 people
Houston	786 people
Dallas	767 people

What is the difference between the number of people who attended the play in Houston and the number of people who attended the play in Austin?

T: _____

I: _____

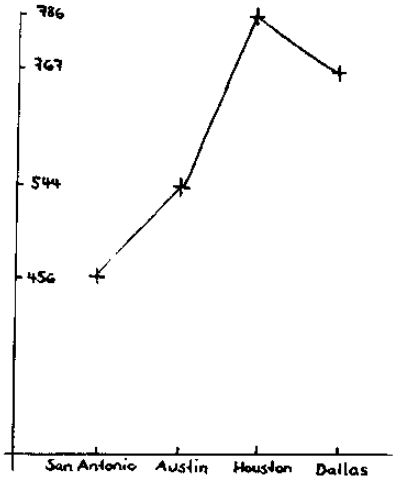
_____

N: _____

S: _____

_____

WORK SPACE



8. Chart: Make a chart that shows the weight of four animals staying at a veterinary clinic.

WORK SPACE

Animal	**Weight**
Small dog	43 pounds
Large dog	84 pounds
Cat	17 pounds
Bird	6 pounds

How much do the large dog and bird weigh altogether?

T: _____

I: _____

_____

N: _____

S: _____

_____

9. Create a bar graph that shows the approximate speed each animal can run.

WORK SPACE

Cheetah	70 miles per hour
Lion	50 miles per hour
Zebra	40 miles per hour
Rabbit	35 miles per hour
Grizzly Bear	30 miles per hour
Domestic Cat	30 miles per hour

How much faster is the cheetah than the domestic cat?

T: _____

I: _____

_____

N: _____

S: _____

_____

Estimating Division Word Problems with TINS

TINS is an important ingredient in addition, subtraction, and multiplication word problems. As you may have guessed, it can help you prepare the correct answers to division problems, too! When you see a division key word in a problem, circle it and write ÷ above the key word. Then write ÷ on the THOUGHT line. Next, circle and write down the important INFORMATION from the word problem. Sometimes it helps to draw a picture of the important information and cross out information that doesn't seem important to the problem. Now write the important information as a NUMBER SENTENCE. Then plug your answer into your SOLUTION SENTENCE. Check out this list of division key words and add other division key words you know.

- each
- equally
- separate
- equal
- divide

Each is that pesky key word that also appears in multiplication word problems. If *each* appears with another division key word, such as *divide* or *equally*, then you are probably dealing with a division problem.

Example: (Nine passengers) get off the train at Sidestreet Station. (Twenty-one people) are waiting for the passengers to arrive. Estimate how many people are waiting to greet (each) passenger.

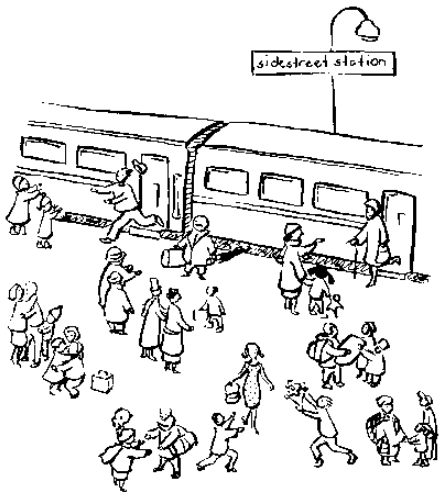
Thought: ÷

Information: 9 passengers, 21 people waiting

Number Sentence: 20 ÷ 10 =

Solution Sentence: There are about 2 people waiting to greet each passenger.

WORK SPACE

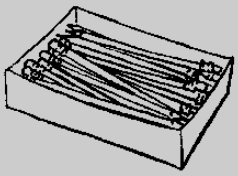


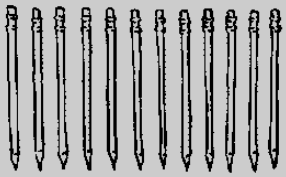
example

Marie received 48 new pencils. She sharpened 12 of them. About how many are not sharpened?

Rounding means you do not find the exact answer. You round each number and then do the problem. In this problem you round each number to the nearest 10, and then you subtract.

48 rounds to 50
12 rounds to 10
50 – 10 = 40





Marie has about 40 pencils that are not sharpened.

Round each number to its highest place. Then find the estimated sum or difference.

52
+ 79
_____

87
- 32
_____

793 - 624 = _____

4,245 + 3,890 = _____

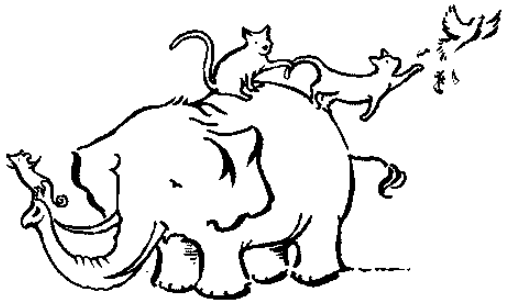
800 - 294 = _____

6,238 + 5,673 + 4,338 =_____

587 + 238 + 681 = _____

29

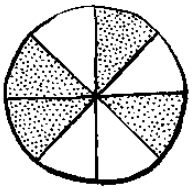
Here is a group of animals. Some are cats. There are two numbers that can be used to describe the part of the group of animals that are cats.

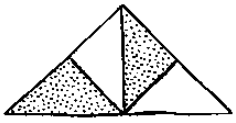


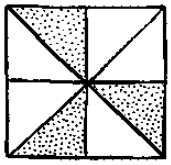
The numerator represents the number of cats in the group.
The numerator is_____.
The denominator represents the total number of animals in the group.
The denominator is_____.

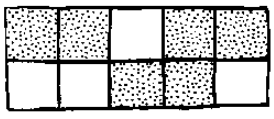
Find the two numbers that can be used to describe the region of the shapes that are shaded.

What is the numerator? What is the denominator?









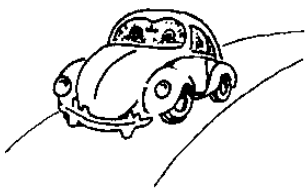
WEIGHT

English		Metric	
Unit	**Abbreviation**	**Unit**	**Abbreviation**
ounce	oz	milligram	mg
pound	lb	gram	g
ton	tn	kilogram	kg

one ounce

one pound

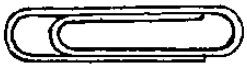
one ton



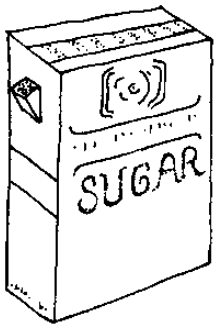
one milligram =

one small eyelash

one gram



one kilogram



Choose the best measure for each item below. Circle your choices in the English system and then in the metric system.

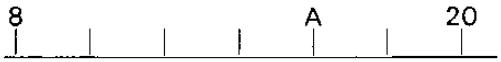
	English			Metric		
1. Weight of a car.	oz	lb	tn	mg	g	kg
2. Weight of a paper clip.	oz	lb	tn	mg	g	kg
3. Weight of a twelve-year-old boy.	oz	lb	tn	mg	g	kg
4. Weight of a fly.	oz	lb	tn	mg	g	kg
5. Weight of a dog.	oz	lb	tn	mg	g	kg
6. Weight of a bicycle.		25 lb	25 tn		12 g	12 kg
7. Weight of an adult woman.	130 oz	130 lb		59 mg		59 kg
8. Weight of a ruler.	1 oz	1 lb		30 mg	30 g	

	English			Metric		
9. Weight of a person.	mi	in	lb	m	g	kg
10. Volume of water in a raindrop.	oz	in	tn	kg	l	ml
11. Weight of a house.	oz	in	tn	kg	l	ml
12. Weight of a mosquito.	yd	cup	oz	km	mm	mg
13. Length of your arm.	in	lb	qt	g	cm	km
14. Length of a desk.	tn	ft	gal	mg	cm	l
15. Volume of milk in a carton.	lb	gal	ft	l	kg	mg
16. Weight of a cow.	lb	gal	ft	l	kg	mg

Review Test 30

26

1. Figure out what *A* is on the following number line.



A = _____

2. Write 308,000,000,000 in words.

_____

3. Factor 70 three ways. _____

_____ _____

4. 42465 ÷ 8 = _____

5. Find the average of 9, 14, 25, and 32.

_____

6. Write seventeen and four thousandths in decimals.

_____

7. 69 + 2.637 + 2.18 = _____

8. 2.7 − 1.342 = _____

9. Round off 28,723 to the nearest thousand.

_____

10. Round off .4265943 to the nearest hundredth.

_____

11. .273 × 69 = _____

12. Write MMCDLXXIII in Arabic numbers.

_____

13. 198.36 ÷ 2.9 = _____

14. 5^4 = _____

15. What fraction of the circle is shaded in?

_____

16. If $\frac{9}{13}$ of a test is right, what fraction is wrong?

_____

17. Complete the ratio.

6 : 48 = _____ : 56

18. $\frac{2}{7} + \frac{2}{3}$ = _____

19. Reduce the following fractions to lowest terms.

$\frac{9}{8}$ = _____ $\frac{12}{16}$ = _____

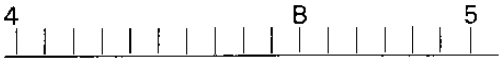
20. Change $9\frac{3}{7}$ to an improper fraction.

_____

21. $5\frac{2}{5} + 7\frac{4}{5}$ = _____

22. $9\frac{1}{7} - 4\frac{3}{7}$ = _____

23. Write point *B* as a mixed number. Reduce your answer to lowest terms.



B = _____

24. $1\frac{9}{10}$ of $\frac{2}{3}$ = _____

25. $\frac{2}{5} \div \frac{7}{10}$ = _____

26. $\frac{1}{3}$ as a percent = _____

75% as a fraction = _____