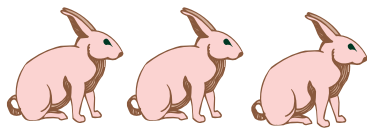




### Algebra Alley

A rectangular garden is two feet longer than it is wide. If the width is doubled, fifty extra feet of fencing will be needed to keep out the rabbits. What are the dimensions of the original garden?



(5.03)



### All About Data

Of one hundred students surveyed: 70 like basketball, 52 like football, 61 like baseball, 29 like baseball and football, 39 like football and basketball, 42 like basketball and baseball, 27 like all three sports. If a student is chosen at random, what is the probability that she/he likes no more than one sport?



(4.01)



### What's The Problem?

A research lab is planning to explore the North Pole. Ten members of the lab each have a dog team. There are 56 dogs in all. If there are only 7- and 5-dog teams, how many of each will there be?

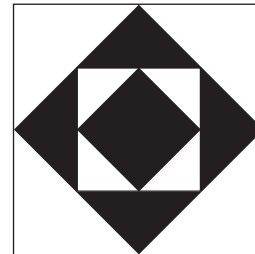


(1.02)



### Geometry Wrap Up

What is the area of each piece of this design if the large square measures 20 cm on each side?



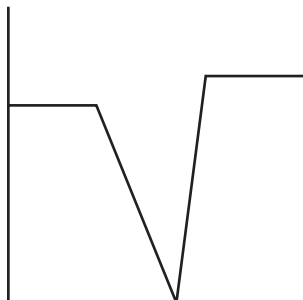
Explain how you got your answer.

(3.02)



### Mathematically Speaking

Write a scenario for this graph. Be sure to label the axes and use the information in your description.



(4.01)



# Keeping Skills Sharp

1. Express this rate as a unit rate: 24 cards for \$4.80. Write answers here:
2. Solve for  $x$ :  $\frac{2}{3} = \frac{x}{42}$  1. \_\_\_\_\_
3. 4.406 \_\_\_\_ 4.4060 2. \_\_\_\_\_  
( $<$ ,  $>$ ,  $=$ ) 3. \_\_\_\_\_
4. Find the circumference of a circle with a radius of 10.6 cm. 4. \_\_\_\_\_
5. Find the sales tax on a \$45 sweater if the tax rate is 6%. What is the total price? 5. \_\_\_\_\_
6. With a 6% sales tax, how much tax will be charged on a \$250 purchase? 6. \_\_\_\_\_
7. Joella made 12 out of 30 baskets. What percent of the baskets did she make? 7. \_\_\_\_\_
8. Find the perimeter of a rectangle that is  $7\frac{1}{2}$  in. by  $4\frac{3}{4}$  in. 8. \_\_\_\_\_
9. What is 43% of \$62? 9. \_\_\_\_\_
10. What is the GCF of 40 and 72? 10. \_\_\_\_\_



# Mental Math

Directions to Students:  
Write your answers as the questions are called out. Each question will be repeated only once.

- |         |          |
|---------|----------|
| 1 _____ | 6 _____  |
| 2 _____ | 7 _____  |
| 3 _____ | 8 _____  |
| 4 _____ | 9 _____  |
| 5 _____ | 10 _____ |

# Answer Key

Grade 8

WEEK  
16

## Algebra Alley

25 ft by 27 ft

## What's the Problem?

Three 7-dog teams and seven 5-dog teams

## Mathematically Speaking

Answers will vary.

Ex. The graph could represent a car that was traveling at a constant speed, stops quickly, starts again, and accelerates to a higher constant speed. The vertical axis would represent the speed of the car and the horizontal axis would represent clock time.

## All About Data

44%

## Geometry Wrap Up

400, 200, 100, 50 are the areas of the alternating white and black squares. The white triangles around the smallest black square each have an area of 12.5. The black triangles around the smaller white square each have an area of 25. The largest white triangles have an area of 50.

## Keeping Skills Sharp

1. \$0.20 for one
2. 28
3. =
4. 66.602 cm
5. \$2.70, \$47.70
6. \$15.00
7. 40%
8. 24.5 inches
9. \$26.66
10. 8

## Mental Math

This section provides an opportunity for sharpening students' mental computation.

1. Square root of 225
2.  $-5\frac{2}{3} + 4\frac{1}{3}$
3.  $1.08 \times 10^{-4}$
4.  $6 \cdot 9 + 3 \cdot 1 + 3$
5. Write  $\frac{3}{8}$  as a percent.
6.  $0.9 + 1.4$
7.  $.2 \times 0.7$
8. Nearest hundredth to: 9.653
9. 240 kL = \_\_\_\_ L
10. If  $w = 10$ , find the value of  $5w \div 2$ .

## Mental Math

1. 15
2.  $-1\frac{1}{3}$
3. .000108
4. 60
5. 37.5%
6. 2.3
7. 0.14
8. 9.65
9. 240,000
10. 25



### Algebra Alley

There are 25 red, blue, yellow and green marbles in a bag. Four of the marbles are blue and the probability of selecting a blue or green marble at random is 40%. Write and solve an equation to determine the number of green marbles in the bag.

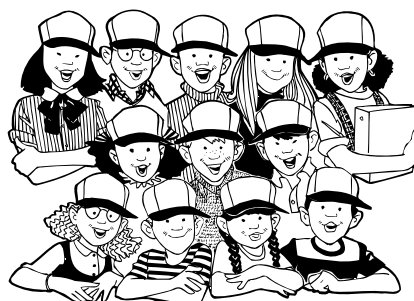


(5.03)



### All About Data

The mean weight of 75 2nd graders is 55.7 lbs and the mean weight of 25 1st graders is 42.6 lb. What is the mean weight of the 100 children?



(Review)



### What's The Problem?

In 1991, the separation between goalpost uprights in college football changed from 23 feet 4 inches to 18 feet 6 inches.

What percent reduction was this?

(accurate to tenths)



(1.02)



### Mathematically Speaking

What is the median of this set?

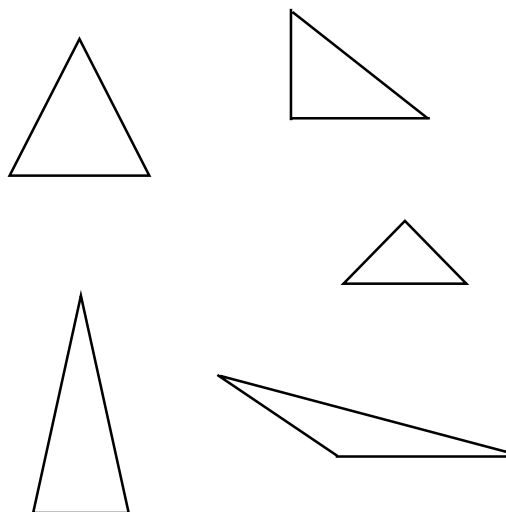
$$\{\pi, \sqrt{25}, 15\%, \sqrt{15}, \frac{10}{4}\}$$

(1.01)



### Geometry Wrap Up

Assume that the sides of triangles are limited to whole-number measures. How many different triangles have a perimeter of 12 meters? Explain how you determined this.



(1.02)



# Keeping Skills Sharp

Write answers here:

1. Name the property illustrated by the following:  $1(xy) = xy$  1. \_\_\_\_\_
2. Add:  $13.71 + 1.5 + (-8.2)$  2. \_\_\_\_\_
3. The temperature is  $5^\circ$  above  $0^\circ$ . If it drops  $8^\circ$ , what is the temperature after it drops? 3. \_\_\_\_\_
4. 60 is 75% of what number? 4. \_\_\_\_\_
5. Find the discount: \$28 jeans on sale for 20% off. 5. \_\_\_\_\_
6.  $(-8)(2\frac{1}{6}) =$  6. \_\_\_\_\_
7.  $(-0.73)(-2.5) =$  7. \_\_\_\_\_
8.  $\frac{3}{5} \cdot 8\frac{2}{5} =$  8. \_\_\_\_\_
9. Find the LCM for 12, 18, and 75. 9. \_\_\_\_\_
10. Find the perimeter and area for the rectangular lot with length 12 km and diagonal 13 km. 10. \_\_\_\_\_



## Mental

## Math

Directions to Students:

Write your answers as the questions are called out. Each question will be repeated only once.

- |         |          |
|---------|----------|
| 1 _____ | 6 _____  |
| 2 _____ | 7 _____  |
| 3 _____ | 8 _____  |
| 4 _____ | 9 _____  |
| 5 _____ | 10 _____ |

# Answer Key

Grade 8

WEEK  
17

## All About Data

52.425 lbs

## What's the Problem?

20.7%

## Mathematically Speaking

$\pi$

## Geometry Wrap Up

Since the sum of any two sides must be greater than the third, three triangles are possible [4,4,4], [3,4,5] and [2,5,5].

## Algebra Alley

6 green marbles

## Keeping Skills Sharp

1. Identity Property for Multiplication
2. 7.01
3. -3
4. 80
5. \$5.60
6.  $-17\frac{1}{3}$
7. 1.825
8.  $\frac{126}{25}$  or  $5\frac{1}{25}$
9. 900
10.  $P = 34$  k;  $A = 60$  sq km

## Mental Math

This section provides an opportunity for sharpening students' mental computation.

1. Solve for  $b$ :  $5b = -20$
2.  $10 \div (-2) \cdot 3$
3. Write an equation for the following: a number divided by negative five is equal to three.
4. Solve for  $s$ :  $s + (-4) = 17$
5. Four times what number is 52?
6. 15% of 60?
7. List four multiples of 4.
8. List the factors of 18.
9. Find the LCM of 4 and 6.
10.  $\frac{18}{?} = \frac{6}{7}$

## Mental Math

1. -4
2. -15
3.  $\frac{n}{-5} = 3$
4.  $s = 21$
5. 13
6. 9
7. Answers will vary.  
{0, 4, 8, 12, 16, ...}
8. {1, 2, 3, 6, 9, 18}
9. 12
10. 21



### Algebra Alley



There are fifty marbles in a sack: red, blue and green. There are ten more green than blue marbles in the sack. The probability of drawing a red or blue marble is one-half. Write and solve an equation to determine how many of each color marble is in the sack.

(5.03)



### All About Data

The following data show the number of Chinese citizens who immigrated to the U.S. Use the data to predict how many Chinese immigrated to the U.S. during the 1990s.

Decade	No. of Chinese Immigrants
1950s	10,000
1960s	35,000
1970s	124,000
1980s	389,000

(4.01)



### What's The Problem?

After the first 41 games of the baseball season, the Red Sox have a winning percentage of 0.585 and the Yankees have 0.512. How many games behind the Red Sox are the Yankees?



(1.02)



### Mathematically Speaking

Explain how you know how many square inches are in a square foot.



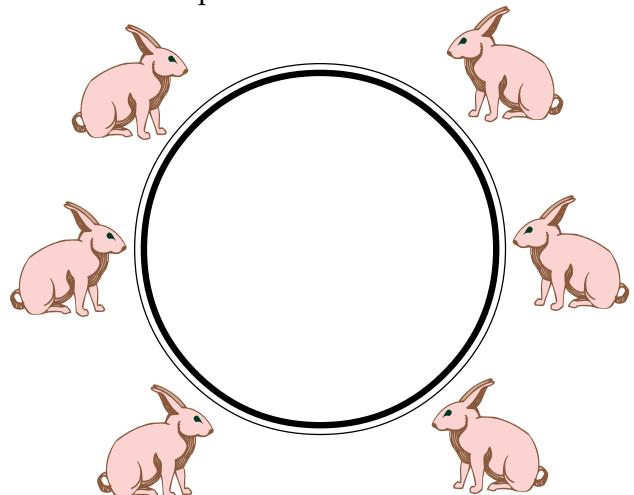
How can you determine how many square centimeters are in a square meter?

(Review)



### Geometry Wrap Up

A circular garden has an area of  $25\pi$  m<sup>2</sup>. If the radius is increased by two meters, and fencing is sold only in one meter sections, how much fencing is needed to keep out the rabbits?

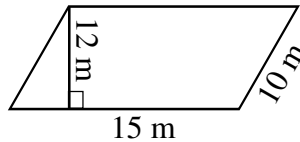


(3.02)



# Keeping Skills Sharp

- I'm thinking of a number. If I multiply it by 7 and add 23, the result is 107. What is the number?
- $(12.996)^2$  is closest to what whole number?
- Solve for  $r$ :  $r - 3 = 14$ .
- Compare: 7.9 cm \_\_\_\_ 3 m
- Find the next 3 numbers in the sequence:  
2, 2, 4, 6, 10, 16, \_\_\_\_, \_\_\_\_, \_\_\_\_
- Find the mean and the median for the following Centigrade temperatures:  
25°, 12°, 30°, 32°, and 10°.
- What is another way to write 18.75484848... ?
- Write 123,000,000,000 in scientific notation.
- Find the area of this parallelogram:
- $16 + 10 \div (-2) + 3 =$



Write answers here:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



## Mental

## Math

Directions to Students:

Write your answers as the questions are called out. Each question will be repeated only once.

1 \_\_\_\_\_

6 \_\_\_\_\_

2 \_\_\_\_\_

7 \_\_\_\_\_

3 \_\_\_\_\_

8 \_\_\_\_\_

4 \_\_\_\_\_

9 \_\_\_\_\_

5 \_\_\_\_\_

10 \_\_\_\_\_





# Answer Key

Grade 8

WEEK  
18

## All About Data

A good strategy would be to draw a graph or look for a number pattern. In each decade of these data, the number of immigrants increased by 3 to 4 times as much as the previous decade. If this pattern continues, we might expect 1 to 1.5 million immigrants in the 1990s. It would also be a good time to discuss whether or not we can expect all established patterns to continue.

## What's the Problem?

3 games

## Geometry Wrap Up

44 meters

## Mathematically Speaking

144 square inches in a square foot (12 in.  $\times$  12 in.)

10,000 square centimeters in a square meter  
(100 cm  $\times$  100 cm)

## Algebra Alley

Equations will vary. If  $b = \text{blue}$ ,  $(b + 10) = \text{green}$ , then  $\text{red} = 50 - (2b + 10)$ . So

$$\frac{(40 - 2b) + b}{50} = \frac{1}{2}$$

10 red, 15 blue, 25 green

## Keeping Skills Sharp

- 12
- 169
- 17
- <
- 26, 42, 68
- mean: 21.8, median: 25
- $18.\overline{7548}$
- $1.23 \times 10^{11}$
- 180 m<sup>2</sup>
- 14

## Mental Math

This section provides an opportunity for sharpening students' mental computation.

- Express the ratio in simplest form: 15 to 25
- Write 0.67 as a fraction.
- A common multiple of 5, 6, and 9 is \_\_\_\_\_.
- A number equivalent to  $\frac{34}{10}$  is \_\_\_\_\_.
- Solve for  $w$ :  $5w = 60$ .
- Solve for  $h$ :  $h + 9 = -16$ .
- 10% of \$2,800.00
- Solve for  $a$ :  $a + 21 = 79$ .
- $5^4 = \underline{\hspace{2cm}}$
- Simplify:  $4m + p + m - 3p$

## Mental Math

- $\frac{3}{5}$  or 3 to 5 or 3 : 5
- $\frac{67}{100}$
- 90, 180, 270 are examples.
- answers will vary
- 12
- 25
- \$280.00
- 58
- 625
- $5m - 2p$