



### Algebra Alley

Harold is two years older than Maud. In eight years he will be twice as old as she is today. How old is Maud?

(5.04)



### What's The Problem?

Mrs. Smith sold 100 shares of stock for \$5,975. When the price per share went down \$5, she bought 200 more shares. When the price per share went back up \$3, she sold 100 shares. How much did Mrs. Smith gain or lose in her transactions?

(1.02)



### Mathematically Speaking

Explain how to figure out how many liters are in a cubic meter.



(Review)



### All About Data

The probability that the first grandchild in a family is a girl is 50%. The probability that the first two grandchildren are both girls is 25%. Complete the table.

Number of Grandchildren	Probability That All Are Girls
1	50%
2	25%
3	_____
4	_____
5	_____
6	_____

Display the results on a scatter plot. Is this a positive or a negative relationship? Why?

(4.01)



### Geometry Wrap Up

The club house floor is a rectangle that is 25' by 40' in size. The officers voted to put a 6-foot sidewalk all around the building, leaving a 2-foot space for plants between the building and the sidewalk. Draw the sketch they might have used to explain their plan and give the perimeter of the outer edge of the sidewalk and the area of the sidewalk itself.

(3.01)



# Keeping Skills Sharp

Write answers here:

- Solve for  $x$ :  $x^2 + 18 = 9 \cdot 6$  1. \_\_\_\_\_
- Find  $k$ :  $\frac{4}{7} = \frac{k}{35}$  2. \_\_\_\_\_
- $-2.6 \cdot -8 =$  3. \_\_\_\_\_
- Solve for  $n$ :  $n - 6 = -10$  4. \_\_\_\_\_
- Write in standard form:  $1.41 \times 10^{-7}$  4. \_\_\_\_\_
- Write the expression for 5 less than a number. 5. \_\_\_\_\_
- Solve for  $y$ :  $\frac{1}{18}y = -10$  6. \_\_\_\_\_
- $70 \text{ m} = \underline{\hspace{1cm}} \text{ cm}$  7. \_\_\_\_\_
- Write as a percent:  $0.09$  8. \_\_\_\_\_
- $-145 \div .25 =$  9. \_\_\_\_\_
- \_\_\_\_\_ 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

## What's the Problem?

\$800 gain

## Mathematically Speaking

A cube with a meter as the length of each edge would have dimensions of 100 centimeters by 100 centimeters by 100 centimeters. A milliliter is the volume of one cubic centimeter. One cubic meter or 1,000,000 cubic centimeters would hold 1,000,000 milliliters. One liter is equivalent to 1,000 milliliters; therefore, a cubic meter would hold 1,000 liters.

## Algebra Alley

Maud is ten years old.

$$P = 194 \text{ ft.}$$

$$A = 1020 \text{ sq. ft.}$$

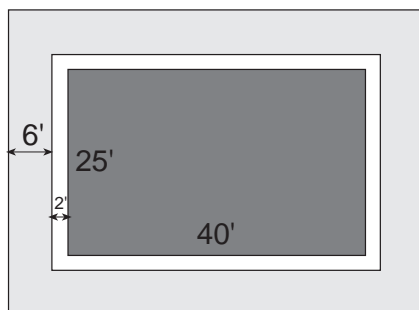
## All About Data

1	50%
2	25%
3	12.5%
4	6.25%
5	3.125%
6	1.5625%
7	0.78125%

This is a negative relationship.

The probability decreases as the number of grandchildren increases.

## Geometry Wrap Up



## Keeping Skills Sharp

- 6, 6
- 20
- 20.8
- 4
- .000000141
- $x - 5$
- 180
- 7,000 cm
- 9%
- 580

## Mental Math

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

- $x + 12 = 8$  Solve for  $x$ .
- What percent of 25 is 5?
- $\frac{3}{4}(16 + 4)$
- Jane marked up a \$20 shirt 50%, what is the new price?
- What is the volume of a cube with sides measuring 3 cm?
- $(-12)^2$
- What is  $33\frac{1}{3}\%$  of 15?
- $78 \div 100$
- $14(0.01)$
- Solve for  $x$ :  $4x + 1 = 21$ .

## Mental Math

- 4
- 20%
- 15
- \$30
- $27 \text{ cm}^3$
- 144
- 5
- 0.78
- 0.14
- $x = 5$



### Algebra Alley

Phil and Bill need to get to Raleigh from Dunn. Phil got on the bus at 10 am and arrived in Raleigh at noon. Bill left 15 minutes later, drove to Raleigh and also arrived at noon. If the bus traveled at 56mph, how fast did Bill drive to get to Raleigh?



(5.03)



### All About Data

A reporter is investigating restaurants. She gathered the following data:

Price of Daily Special	Amount of Time to Wait for Service
\$4	15 minutes
5	10
5	12
6	8
6	10
7	7
8	7
8	6
10	5
12	6
15	7

Display the information on a scatter plot. What do you think the graph means?

(4.01)



### What's The Problem?

When 45 people were polled, 32 of them said they liked a new restaurant and the others said they did not like it. If this data were to be put in a pie chart, how many degrees would be in the angle that represents people who liked the restaurant?

(4.01)



### Mathematically Speaking

To solve the equation:

$$4(x - 5) = 3(4 - x) + 7,$$

what would you do first? Why?

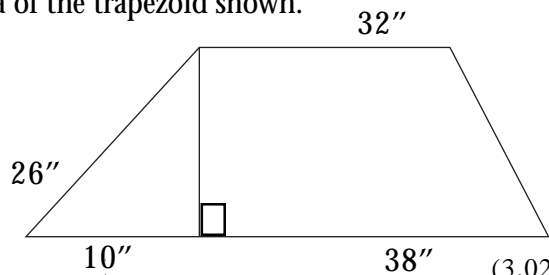
(5.04)



### Geometry Wrap Up

The formula for the area of a trapezoid is

$A = \frac{h}{2}(b_1 + b_2)$ ;  $b_1$  and  $b_2$  are the parallel sides. Find the area of the trapezoid shown.

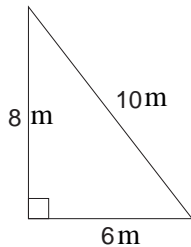


(3.02)



# Keeping Skills Sharp

- Two quarts = \_\_\_\_ ounces
- Draw an obtuse angle and estimate its measure.
- $6^2 \cdot 6^3 =$
- Find the area:



- How many minutes are in a day?
- If there were 60 problems on a test and Betty got 90% of the problems correct, how many problems did she answer correctly?
- Simplify:  $2(x - 4)$
- What is the GCF of 6 and 8?
- List six multiples of 6.
- True or false: Perpendicular lines intersect at acute angles.

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  
1 1

## Algebra Alley

64 mph

## What's the Problem?

256 degrees.

## Mathematically Speaking

Answers may vary, but a good first step would be to distribute the 4 and the 3 so that it would be possible to combine like terms.

## All About Data

Answers will vary. It appears that the higher the price of the special, the less time it takes to be served. (Negative relationship)

## Geometry Wrap Up

960 square inches

## Keeping Skills Sharp

- 64 oz
- Answers will vary -  $> 90^\circ$  and  $< 180^\circ$ .
- 7,776
- 24 square meters
- 1,440 minutes
- 54
- $2x - 8$
- 2
- Answers will vary.  $\{0, 6, 12, 18, 24, \dots\}$
- false

## Mental Math

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

- Solve for  $x$ :  $\frac{x}{4} = -7$
- Write 273,000 in scientific notation.
- What is the LCM of 6 and 8?
- Evaluate  $4x^3 - x$  if  $x = -1$ .
- Solve for L:  $\frac{3}{L} = \frac{6}{10}$
- $4 \cdot 5 - 8 \div 2$
- Solve for  $x$ :  $3x + 8 = 20$
- Write 5,000 in scientific notation.
- What is 70 percent of 70?
- $\left(\frac{2}{5}\right)^2$

## Mental Math

- 28
- $2.73 \times 10^5$
- 24
- 3
- 5
- 16
- $x = 4$
- $5 \times 10^3$
- 49
- $\frac{4}{25}$



### Algebra Alley

Sam rows up a river to camp in three hours. The next day he makes the return trip downstream in one hour. If he can row two mph in still water, how fast is the current?

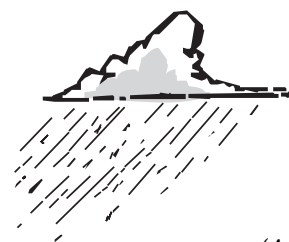


(5.03)



### All About Data

Find the amount of rain the state of North Carolina receives each year. About how much rain falls per month? How does North Carolina's monthly rainfall compare with the monthly rainfall in your county?



(4.01)



### What's The Problem?

Given any random, 3-digit number, what is the probability that a number will be:

- a) a multiple of 5
- b) divisible by 2
- c) a square number

(1.02)



### Geometry Wrap Up

Ceramic tiles measure 2 inches by 3 inches. What is the *least* number of tiles that are needed to completely cover a square area that is 2 feet on each side?



(2.01)



### Mathematically Speaking

In solving the equation,

$$\frac{2}{3}(x - 7) = 18$$

what would you do first? Why?

(5.04)



# Keeping Skills Sharp

- Write answers here:
1.  $(2 \times 10^2)(2 \times 10^3) =$  1. \_\_\_\_\_
  2. Write  $6.34 \times 10^3$  in standard form. 2. \_\_\_\_\_
  3. Solve for  $x$ :  $\frac{x}{2} + 3 = 10$  3. \_\_\_\_\_
  4.  $3(xy + 2y) =$  4. \_\_\_\_\_
  5. What is a ratio? Give an example. 5. \_\_\_\_\_
  6. Let  $a = 2$ ,  $b = -3$ ,  $c = 5$ . Find the value of  $3b + c$ . 6. \_\_\_\_\_
  7. A quiz contains 8 questions. You get 7 correct. What percent did you get correct? 7. \_\_\_\_\_
  8.  $(3 + 5)^2 =$  8. \_\_\_\_\_
  9. Find the mean of the following Fahrenheit temperature readings:  $-6^\circ, 4^\circ, 2^\circ, 0^\circ, -7^\circ, 6^\circ, -4^\circ, 2^\circ$ . 9. \_\_\_\_\_
  10. Write in standard notation:  
eighteen thousand and two hundredths. 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  
1 2

## What's the Problem?

96 tiles

## Mathematically Speaking

Answers may vary, but a good first step would be to multiply both sides of the equation by either 3 or by

$\frac{3}{2}$ . This will clear the equation of fractions.

## All About Data

Research will need to be done on the rainfall totals for the state and the local area.

## Geometry Wrap Up

96 tiles

## Algebra Alley

one mph

## Keeping Skills Sharp

1.  $4 \times 10^5$
2. 6,340
3.  $x = 14$
4.  $3xy + 6y$
5. Answers will vary A comparison of two quantities; ex. 3 to 4.
6.  $-4$
7.  $87\frac{1}{2}\%$
8. 64
9.  $-0.375$
10. 18,000.02

## Mental Math

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

1. Write  $3.1 \times 10^4$  in standard form.
2. Convert 500 meters to kilometers.
3. Multiply:  $3(x + y)$
4. Convert 36 inches to feet.
5. Write 1,120,000 in scientific notation.
6. Solve for  $y$ :  $y^2 = 64$
7. Which fraction is larger:  $\frac{5}{8}$  or  $\frac{3}{4}$ ?
8. How many ounces in  $3\frac{1}{2}$  pounds?
9. What is  $\frac{3}{4}$  of \$1.00?
10. What is  $\frac{3}{4}$  of a dozen?

## Mental Math

1. 31,000
2. 0.5 km
3.  $3x + 3y$
4. 3 feet
5.  $1.12 \times 10^6$
6.  $-8, 8$
7.  $\frac{3}{4}$
8. 56 oz.
9. \$0.75
10. 9