



Algebra Alley

Jack has 10 nickels and some quarters. If the value of the coins is \$2.00, how many quarters does he have?



(1.02)



What's The Problem?

Pebble Pebble!

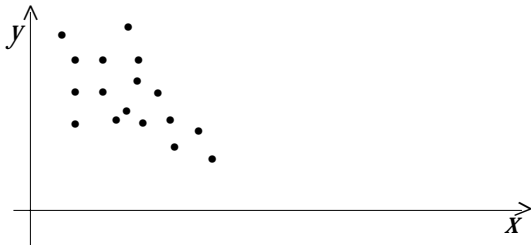
A pebble is thrown into a cylindrical water pool 3 feet in diameter causing the water to rise 0.0015 inches. What is the volume of the pebble in cubic inches?

(Review)



Mathematically Speaking

You are given a scatter plot and told to estimate and draw a line of best fit. Explain how to do this.



(4.01)



All About Data

Using a Cartesian coordinate graph, plot and label the following points:

A (2,5) B(3,3) C(6,4) D(7,7) E(6,8) F(3,9) G(2,4)

Title for graph: **Dog Food for Sale**

Horizontal axis: **weight in Kg**

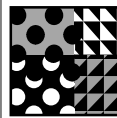
Vertical axis: **cost in \$**

If each point represents a different sack of dog food:

1. Which sack is heaviest?
2. Which sack is the most expensive?
3. Which sacks cost the same?
4. Which sacks weigh the same?
5. Which sack costs the least?
6. Which sack is the better buy C or F?
7. Which sack is the better buy E or A?
8. Which sack(s) give the same value per dollar?
9. Which sack is the best buy?

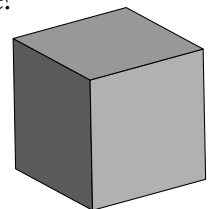
Be sure to justify your responses.

(4.01)



Geometry Wrap Up

The surface area of a cube is 486 square inches. How long is an edge? What is its volume?



(3.01)



Keeping Skills Sharp

Write answers here:

1. What is the mode for the following set of scores:

{75, 62, 71, 88, 73, 88, 72, 77}?

1. _____

2. $3 \cdot 7 - 4 \cdot (8 + 2) =$

2. _____

3. Give the 6th term in the sequence 1, 4, 9, 16...

3. _____

4. 6 is 15% of what number?

4. _____

5. Simplify: $(3^2)^3$

5. _____

6. 75% of 19.00 =

6. _____

7. Add four to the multiplicative inverse of $\frac{2}{3}$ and simplify.

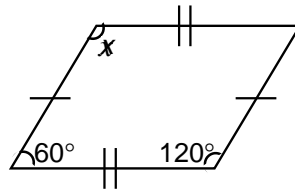
7. _____

8. Draw an obtuse angle and estimate its measure.

8. _____

9. For the given parallelogram determine the measure of angle x .

9. _____



10. What percent of 4 is 7?

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
7

Algebra Alley

6 quarters

What's the Problem?

$$\pi (18)^2 \times 0.0015 = 1.53 \text{ cubic inches}$$

Mathematically Speaking

The line should follow the general path of the points.

The line should have an equal number of points above and below it and should pass through as many of the points as possible.

All About Data

1. D; 2. F; 3. C & G; 4. E & C; 5. B; 6. C;
7. E; 8. B & D; 9. C.

Geometry Wrap Up

9 inches; 729 in^3

Keeping Skills Sharp

- 88
- 19
- 36
- 40
- 3^6 or 729
- 14.25
- $5\frac{1}{2}$
- Answers will vary
($90^\circ < \text{measure of angle} < 180^\circ$)
- 60°
- 175%

Mental Math

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

- Solve for x : $\frac{1}{3}x + 7 = 1$
- Write $33\frac{1}{3}\%$ as a decimal.
- How many quarters equal \$20.75?
- A six-pack of soda sells for \$2.28. What is the cost per can?
- Write $\frac{5}{4}$ as a percent.
- Convert 1.23×10^3 to standard form.
- Simplify: 13^0
- Solve for x : $\frac{1}{4}x - 8 = 12$
- $\sqrt{18}$ is between what two consecutive integers?
- True or False: $(0.2)(0.8) = 0.16$

Mental Math

- $x = -18$
- $\bar{3}$
- 83
- \$.38
- 125%
- 1,230
- 1
- 80
- 4 and 5
- True



Algebra Alley

Simplify the following expression:

$$x + 4(y + 8x)$$

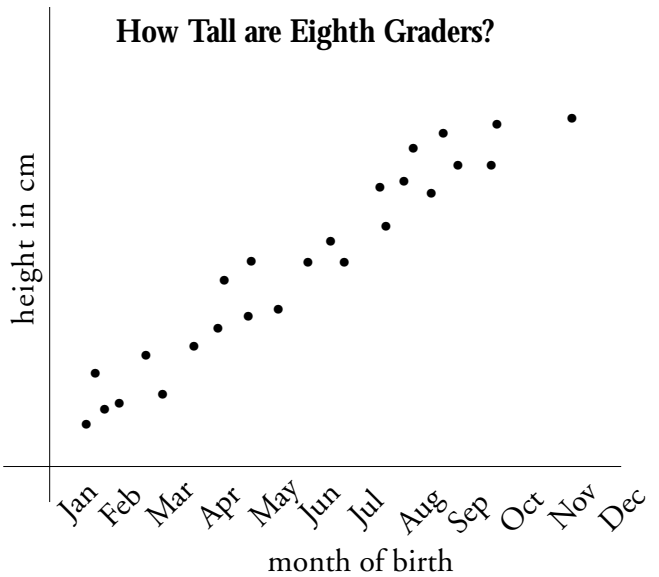
Write the property that justifies each step.

(Review)



All About Data

What's wrong with this graph?



(4.02)



What's The Problem?

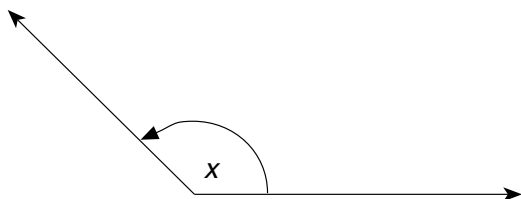
The sum of two brothers' ages is 38. One brother is ten years older than the other. How old is each brother?

(5.03)

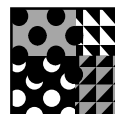


Mathematically Speaking

Estimate the measure of the indicated angle in degrees. Explain or show how you got your estimate.



(Review)



Geometry Wrap Up

A rectangular garden has an area of 55 m² and a perimeter of 32 m. If its length is doubled, what is the % of increase on the new area and new perimeter?



(2.01)



Keeping Skills Sharp

Write answers here:

1. Find the mean of 4, 6, 3, 12, 5. 1. _____
 2. Find the median of the numbers in Problem #1. 2. _____
 3. What are the next 2 numbers in the pattern?
-1, 2, -4, 8, -16, ____, ____ 3. _____
 4. Order from least to greatest:
0.5, 0.05, 0.5001, 0.49 4. _____
 5. Find the measure of angle x : 5. _____
-
6. Simplify:
 $-12x + 7y - 2x - 3y$ 6. _____
 7. An elevator started at the first floor and went up 18 floors. It then came down 11 floors and went back up 16. At what floor was it stopped? 7. _____
 8. Simplify: $2(x + y) + 3x$ 8. _____
 9. Find the area of a circle with radius of 8 cm. 9. _____
 10. What does *area* mean? 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

Algebra Alley

Solutions will vary

$$33x + 4y$$

What's the Problem?

14 years, 24 years

Mathematically Speaking

135° Sample explanation: $90^\circ + 0.5(90^\circ) = 135^\circ$

Geometry Wrap Up

area 100%; perimeter 68.75%

All About Data

It is bogus!! There is no relationship between height and month of birth.

Keeping Skills Sharp

- 6
- 5
- 32, -64
- 0.05, 0.49, 0.5, 0.5001
- 100°
- $-14x + 2y$
- 24
- $5x + 2y$
- 201 cm^2
- Number of square units needed to cover a surface

Mental Math

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

- $25 + -5$
- True or False: $\frac{16}{0} = 0$
- Solve for x : $\frac{x}{4} - 6 = -16$
- Express 2.3×10^4 in standard form.
- In which quadrant does the ordered pair $(-3, 4)$ lie?
- Convert 5,000,000 millimeters to kilometers.
- Write 489,000 in scientific notation.
- $19 - 23$
- $0 - 6\frac{1}{2} + (-3)$
- $-11 - 7$

Mental Math

- 20
- False
- 40
- 23,000
- II
- 5 km
- 4.89×10^5
- 4
- $-9\frac{1}{2}$
- 18



Algebra Alley

A jar contains red, blue and yellow marbles. The number of red marbles is ten more than the number of yellow marbles and the number of blue marbles is double the number of yellow marbles. If the probability of choosing a yellow marble is one-fifth, how many marbles are in the jar? (5.03)



What's The Problem?

You have to wrap gift boxes for your club project. Each box is 4.5 inches wide, 7 inches long, and 4 inches tall. What size sheet of wrapping paper do you need to cut to cover the box?

Gift wrap paper comes in sheets which are 30 inches wide and 36 inches long. How should you cut your sheet to make the best use of the paper?



Mathematically Speaking

Explain, in words, how you would solve:

$$3(n - 8) = 12 + 2n$$

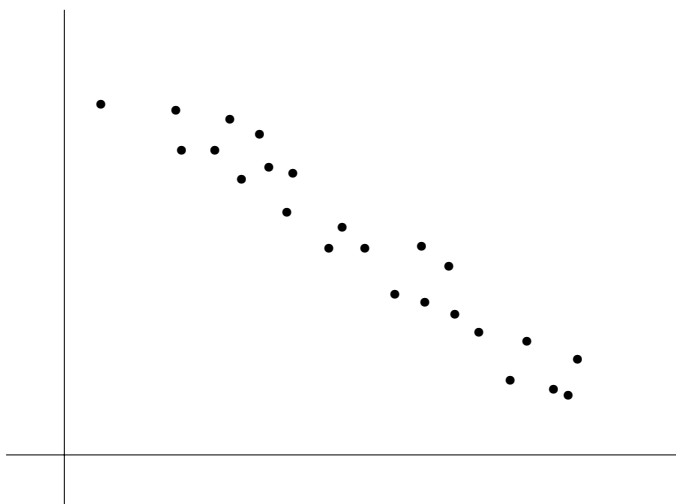
(5.04)



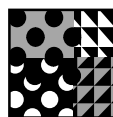
All About Data

What could this graph reasonably represent?

Be sure to give it a title and label the axes.

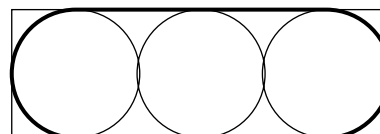


(4.02)



Geometry Wrap Up

If each circle has a diameter of 50 feet, find the distance around the racetrack.

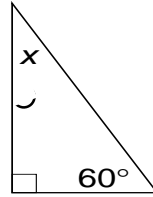


(Review)



Keeping Skills Sharp

1. Compare perimeter and circumference.
2. $\underline{\hspace{2cm}} \div 4 + 6 = 16$
3. Determine the measure of angle x .



4. Simplify:
 $(10^3)(10^8)$

5. $-\frac{3}{10} - \frac{1}{2}$

6. The square root of 64 is how much less is than $6^2 \cdot 4$?

7. $\frac{5}{6} \div \frac{1}{4}$

8. $-16 + (20 \cdot 6) \div (6 + 2) + 31$

9. Find the mean, median, and mode for the following set of data:
{ 0.2, 0.4, 0.1, 0.6, 1.2, 1.1 }

10. What is the sum of the first 5 square numbers?

Write answers here:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____



Mental Math

Directions to Students:

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

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Answer Key

Grade 8

WEEK
9

What's the Problem?

The smallest sheet of paper that will work is 11.5 in. by 17 in. If you cut the large sheet of paper into four sheets, each 18" by 15", the least paper will be wasted.

Mathematically Speaking

Answers will vary. Using the distributive property should be one early step.

$$n = 36$$

Geometry Wrap Up

$200 + 50 \times 3.14$ is about 357 feet or about 119 yards.

Algebra Alley

50 marbles; 10 yellow and 20 each of red and blue.

Keeping Skills Sharp

1. Distance around a polygon vs. the distance around a circle.
2. 40
3. 30°
4. 10^{11}
5. $-\frac{8}{10} = -\frac{4}{5}$
6. 136
7. $\frac{20}{6} = 3\frac{2}{6} = 3\frac{1}{3}$
8. 30
9. mean: 0.6, median: 0.5, mode: none
10. 55

Mental Math

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

1. $-7 + 9(2) + 4(-3)$
2. Simplify: $4(2b - 4)$
3. If a \$36 shirt is on sale for 25% off, what is the sale price?
4. $\frac{0}{16}$
5. $-8 + 15.32$
6. If 7 out of 10 students like pizza, how many students should like pizza in a class of 30?
7. Solve for x : $x^2 = 121$
8. $-250 \div 10 \times 3 + 7$
9. $-3.5 + 8$
10. $\left(\frac{3}{4}\right)^3$

Mental Math

1. -1
2. $8b - 16$
3. \$27
4. 0
5. 7.32
6. 21
7. -11, 11
8. -68
9. 4.5
10. $\frac{27}{64}$