

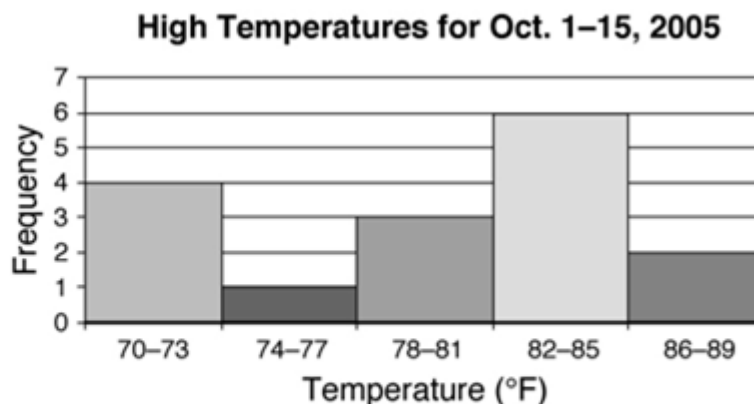
# AT HOME PRACTICE Unit 13: Data and Statistics



## Calculator Active

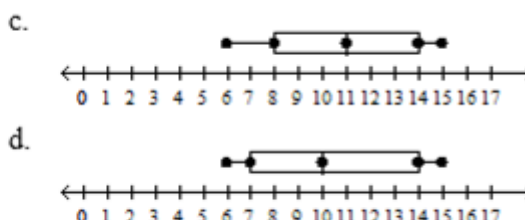
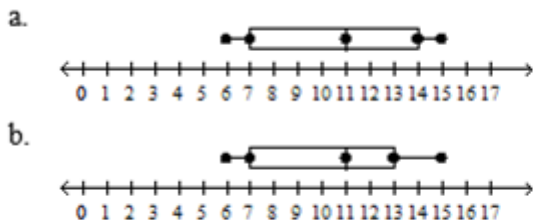
1) The highest temperatures for Concord, CA, for October 1-15, 2005 are given below. Look at the histogram of the data below. What is the error in this histogram?

High Temperatures (°F)										
80	73	72	76	84	86	82	73			
81	84	78	85	87	84	70				



- The bar for 74-77 is too short.
- The bar for 78-81 is too tall.
- The bar for 82-85 is too tall.
- The bar for 86-89 is too short.

2) The number of calls answer by a paramedic team over an 8-day period are given. Used the data to make a box-and-whisker plot. **12, 6, 8, 15, 14, 6, 14, 10**



3) For the stem-and-leaf plot below, what is the maximum and what is the minimum entry?

Key : 11|7 = 11.7

11	6 7
12	4 6 6 7 8 9
13	0 1 1 2 3 6 6 7 8 8
14	3 4 6 6 8 9 9 9
15	0 1 1 2 3 7 7 8 9
16	2 2 5 7 8 8 9 9
17	0 3

- max: 17.3; min: 11.6
- max: 17.0; min: 11.6
- max: 17.3; min: 11.6
- max: 17.3; min: 11.7

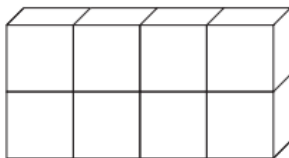
# AT HOME PRACTICE Unit 12: Surface Area and Volume



## Calculator Active

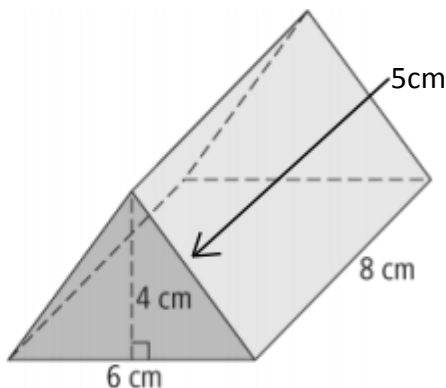
1) The right rectangular prism below is made up of 8 cubes. Each cube has an edge length of  $\frac{1}{2}$  inch. What is the volume of the prism?

- A 1 cubic inch
- B 2 cubic inches
- C 4 cubic inches
- D 8 cubic inches

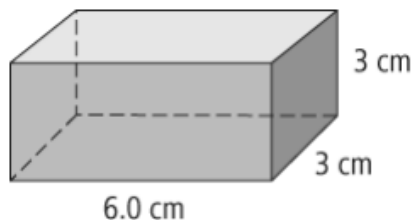


3) The surface area of this triangular prism would be calculated as

- a.  $2(5 \times 8) + 2(6 \times 4)$
- b.  $2\left(\frac{5 \times 8}{2}\right) + 2(5 \times 5) + (6 \times 8)$
- c.  $2\left(\frac{4 \times 6}{2}\right) + 2(5 \times 8) + (6 \times 8)$
- d.  $2(5 \times 8) + 3(6 \times 4)$



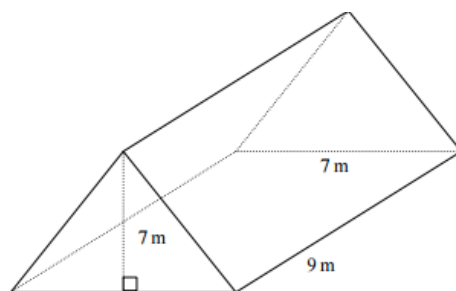
4) Find the surface area of the following rectangular prism.



- a.  $81 \text{ cm}^2$
- b.  $90 \text{ cm}^2$
- c.  $108 \text{ cm}^2$
- d.  $162 \text{ cm}^2$

2) Find the volume of the triangular prism.

- a.  $24.5 \text{ m}^3$
- b.  $441 \text{ m}^3$
- c.  $31.5 \text{ m}^3$
- d.  $220.5 \text{ m}^3$



5) Find the surface area of the square pyramid.

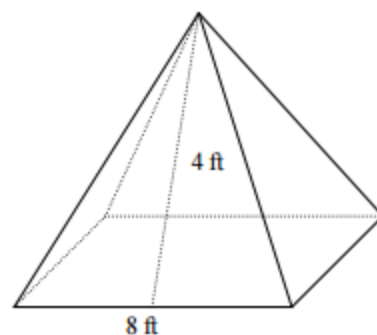


Diagram not to scale.

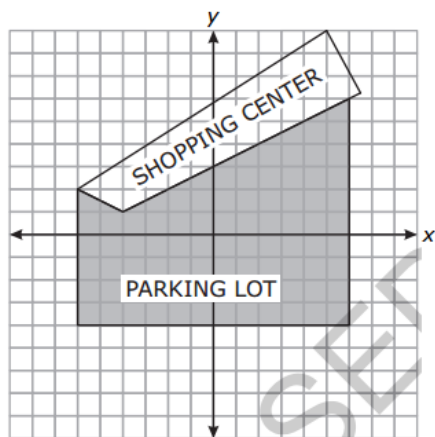
- a.  $64 \text{ ft}^2$
- b.  $128 \text{ ft}^2$
- c.  $80 \text{ ft}^2$
- d.  $96 \text{ ft}^2$

# AT HOME PRACTICE Unit 11: Area and Perimeter



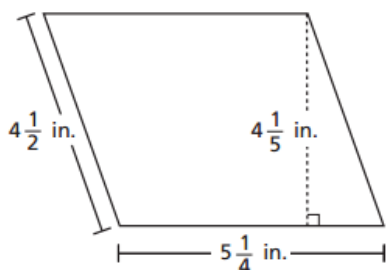
## Calculator Active

- 1) The shaded area indicates the parking lot at a shopping center. What was the total area of the parking lot?
- 72 units<sup>2</sup>
  - 86 units<sup>2</sup>
  - 91 units<sup>2</sup>
  - 120 units<sup>2</sup>



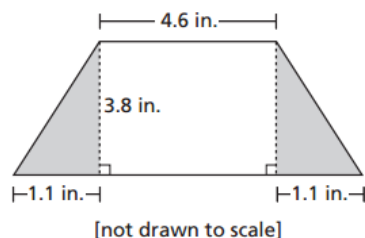
- 2) Erika drew the parallelogram below. Which expression can Erika use to find the area of the parallelogram?

- $5\frac{1}{4} \times 4\frac{1}{5}$
- $\frac{1}{2} \left( 5\frac{1}{4} \times 4\frac{1}{5} \right)$
- $2 \times \left( 5\frac{1}{4} + 4\frac{1}{2} \right)$
- $5\frac{1}{4} \times 4\frac{1}{2}$



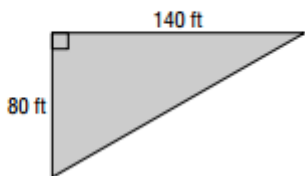
- 3) The trapezoid shown below has an area of 21.66 square inches. What is the total area of the shaded sections of the trapezoid?

- 2.09 square inches
- 4.18 square inches
- 4.86 square inches
- 8.74 square inches



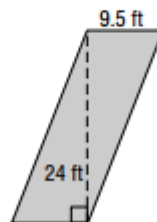
- 4) The Wilson family purchased a triangular corner lot in Harnett County. What is the area of the lot?

- 1,400 ft<sup>2</sup>
- 2,800 ft<sup>2</sup>
- 3,200 ft<sup>2</sup>
- 5,600 ft<sup>2</sup>



- 5) The figure shows the measure of each slanted parking stall in the parking lot at an art museum. What is the area of each stall?

- 228 ft<sup>2</sup>
- 114 ft<sup>2</sup>
- 57 ft<sup>2</sup>
- 28.5 ft<sup>2</sup>

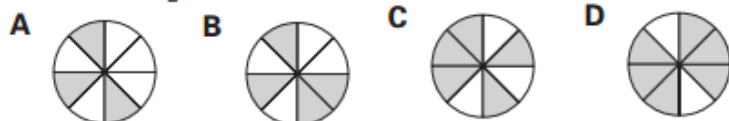


## HOME PRACTICE Unit 9: Percents



### Calculator Active

- 1) In a survey at Richardson Middle School,  $37\frac{1}{2}\%$  of the students said they plan to attend a North Carolina State Wolfpack game. Which model represents  $37\frac{1}{2}\%$  shaded?



- 2) Nicholas saw a skateboard on sale for \$62 at a sporting goods store. The original price of the skateboard was \$79.95. Which is the best estimate of the percent discount on the skateboard?

- A** 18% **C** 24%  
**B** 60% **D** 75%

- 3) Mr. Dabenow divided his science class into four teams, each of which will present a project at the end of the semester. The table shows how much of the project each team had completed at the end of 5 weeks. Which list shows the team projects in order from least completed to most completed?

Team	Amount Completed
oceans	0.37
sea life	$\frac{9}{25}$
climate	38%
energy	$\frac{7}{20}$

- A** energy, sea life, oceans, climate  
**B** climate, oceans, sea life, energy  
**C** oceans, climate, energy, sea life  
**D** sea life, energy, oceans, climate

- 4) A company that makes boxes finds that 3 out of 20 boxes are damaged. What percent of the boxes are damaged?

- A** 12% **C** 25%  
**B** 15% **D** 34%

- 5) The vice president of sales took a client out to lunch. If the lunch was \$44 and she gave a 20% tip, how much money did she spend on lunch?

- A** \$8.80 **C** \$52.80  
**B** \$35.20 **D** \$53.80

**AT HOME PRACTICE Unit 8: Ratios, Rates, and Proportions**



**Calculator Active**

- 1) A group of students organized a car wash to raise money for a local charity. The students charged \$5.00 for each car they washed. In 3 hours, they washed 12 cars. At that rate, how much money could they earn from washing cars for eight hours?
- A** \$40.00      **C** \$85.00  
**B** \$60.00      **D** \$160.00
- 2) A punch recipe requires 2 cups of cranberry juice to make 3 gallons of punch. Using the same recipe, what is the amount of cranberry juice needed for 1 gallon of punch?
- A** 3 cups      **C** 1 cup  
**B**  $1\frac{1}{2}$  cups      **D**  $\frac{2}{3}$  cup
- 3) Arnold's entire workout consisted of 10 minutes of warm-up exercises, 25 minutes of lifting weights, and 15 minutes on the treadmill. What was the ratio of the number of minutes he lifted weights to the total number of minutes of his entire workout?
- A** 1 : 1      **C** 3 : 10  
**B** 1 : 2      **D** 5 : 8
- 4) A company makes 5 blue cars for every 3 white cars it makes. If the company makes 15 white cars in one day, how many blue cars will it make?
- A** 9      **C** 17  
**B** 13      **D** 25
- 5) Wyatt hiked 6 miles in 2 hours. At this same rate, what is the total number of miles Wyatt could hike in 9 hours?
- A** 3      **C** 21  
**B** 7      **D** 27
- 6) What is the unit rate if you are charged 6 cents for 3 marbles?
- a. 2 cents per marble  
b. 5 cents per marble  
c. 18 cents per marble  
d. 9 cents per marbles

## AT HOME PRACTICE Unit 7: Inequalities



### Calculator Active

1) What answer is a possible  $8x + 2 \geq 18$

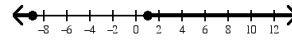
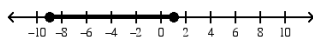
- a. 2                      b. -2                      c. 0                      d. -4

2) Thomas earned \$44 or less.

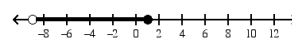
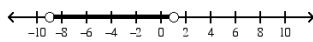
- a.  $t > 44$               b.  $t \leq 44$               c.  $t < 44$               d.  $t \geq 44$

3) What graph represents all real numbers at least  $-9$  and at most  $1$

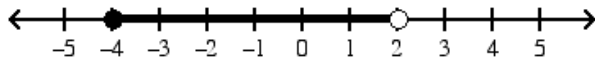
- a.  $-9 \leq x \leq 1$                       c.  $-9 \geq x \geq 1$



- b.  $-9 < x < 1$                       d.  $-9 \geq x \geq 1$

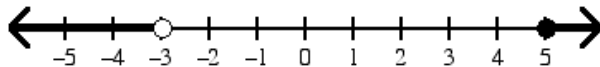


4) What answer choice is a representation of the graph to the right?



- a.  $-2 \leq x < 4$                       c.  $x \geq -4$  or  $x < 2$   
b.  $-4 < x \leq 2$                       d.  $-4 \leq x < 2$

5) What answer choice is a representation of the graph to the right?



- a.  $q < -5$  or  $q \geq 3$                       c.  $-5 \leq q < 3$   
b.  $q > -3$  or  $q \leq 5$                       d.  $q < -3$  or  $q \geq 5$

6) The ninth grade class at a local high school needs to purchase a park permit for \$250.00 for their upcoming class picnic. Each ninth grader attending the picnic pays \$0.75. Each guest pays \$1.25. If 200 ninth graders attend the picnic, which inequality can be used to determine the number of guests,  $x$ , needed to cover the cost of the permit?

- a.  $0.75x - (1.25)(200) \geq 250.00$                       c.  $(0.75)(200) - 1.25x \geq 250.00$   
b.  $0.75x + (1.25)(200) \geq 250.00$                       d.  $(0.75)(200) + 1.25x \geq 250.00$



Calculator Active

1)

If a cornstalk grows 8 inches every month, how many months ( $m$ ) will it take for the cornstalk to be 70 inches tall?

Which equation can be used to solve this problem?

- A  $m + 8 = 70$       C  $8m = 70$   
 B  $m - 8 = 70$       D  $\frac{m}{8} = 70$

2) Which can be represented by the expression  $17 - 2x$ ?

- A 17 less than twice a number  $x$   
 B the difference between 17 and twice a number  $x$   
 C a number  $x$  squared, subtracted from 17  
 D 17 less than a number  $x$  squared

3) Hannah babysits to earn money.

- She charges \$6.50 to babysit for the first hour.
- She charges \$5.75 for each additional hour.
- Let  $n$  equal the number of hours after the first hour.

Which expression represents how much Hannah charges?

- A  $12.25n$       C  $6.50n + 5.75$   
 B  $6.50 + 5.75n$       D  $6.50n + 5.75n$

4) Doug rented a backhoe to clear some brush off his property. The cost to rent the backhoe is \$120 plus \$115 per day. If  $d$  represents days, which expression can Doug use to determine the cost of renting the backhoe for  $d$  days?

- A  $120 + 115d$       B  $d(120 + 115)$   
 C  $d - (120 + 115)$       D  $120d + 115$

5) Which expression is equivalent to

$$5y + 2y + 6x + 2y - x?$$

- A  $5x + 6y$       C  $5x + 9y$   
 B  $5x + 7y$       D  $7x + 7y$

6) What is  $x$  if  $3x = 84$ ?

- A 20      C 26  
 B 21      D 28

7) Solve the equation below.

$$0.3r = 2.1$$

- A  $r = 0.7$       C  $r = 7$   
 B  $r = 1.8$       D  $r = 18$

8) What is the solution of the equation below?

$$x + 8.63 = 11.001$$

- A  $x = 19.631$       C  $x = 3.471$   
 B  $x = 10.138$       D  $x = 2.371$



# AT HOME PRACTICE Unit 5: Integers and the coordinate plane

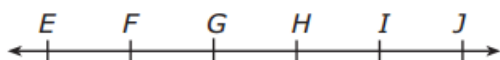


## Calculator Active

1) Keith wants to plot  $-8$  and  $-9$  on the number line. Which statement is true?

- A Keith should plot  $-8$  to the left of  $-9$  because  $-8 < -9$ .
- B Keith should plot  $-8$  to the left of  $-9$  because  $-8 > -9$ .
- C Keith should plot  $-9$  to the left of  $-8$  because  $-9 < -8$ .
- D Keith should plot  $-9$  to the left of  $-8$  because  $-9 > -8$ .

2) Jack drew a number line on his paper. Jack drew a new point 45% of the distance from E to point J. Between which two letters does the new point lie?



- a. G and H
- b. I and J
- c. F and G
- d. H and I

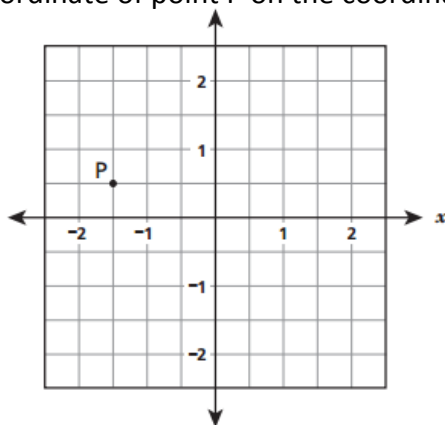
3) A trapezoid in a coordinate plane has vertices  $(-2, 5)$ ,  $(-3, -2)$ ,  $(2, -2)$ , and  $(1, 5)$ .

What is the height of the trapezoid?

- a. 3 units
- b. 5 units
- c. 7 units
- d. 9 units

4) What is the x-coordinate of point P on the coordinate grid?

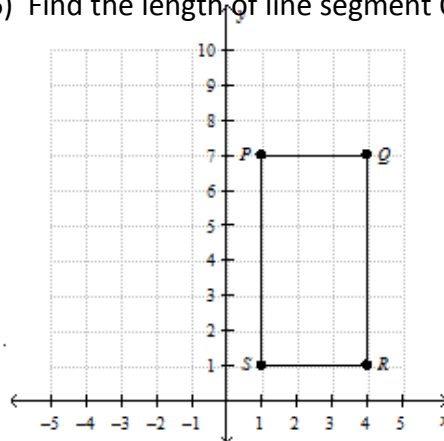
- A  $-1\frac{1}{2}$
- B  $-\frac{1}{2}$
- C  $\frac{1}{2}$
- D  $1\frac{1}{2}$



5) Triangle  $EFG$  has vertices  $E(-3, 1)$ ,  $F(1, 1)$ , and  $G(4, 5)$ . Find the coordinates of the image of point  $G$  after a reflection across the  $x$ -axis.

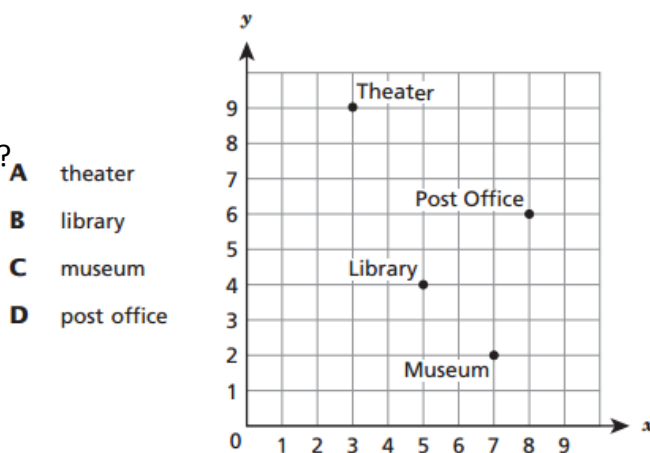
- a.  $(-4, 5)$
- b.  $(5, 4)$
- c.  $(4, -5)$
- d.  $(-4, -5)$

6) Find the length of line segment  $QR$ .



- a. 18 units
- b. 9 units
- c. 6 units
- d. 3 units

7) The points plotted on the coordinate grid below show different locations in a city. The grid lines represent the city's streets. The city plans to build a parking lot at the location represented by the coordinates  $(8, 4)$ . Which building is the shortest driving distance from the parking lot?



- A theater
- B library
- C museum
- D post office

8) A group of hikers climbed from Salt Flats (elevation  $-55$  feet) to Talon Bluff (elevation  $620$  feet). What is the difference in elevation between Talon Bluff and Salt Flats?

- A 565 feet
- B 575 feet
- C 665 feet
- D 675 feet



## AT HOME PRACTICE Unit 4: Fractions



- 1) Savannah is filling cups with punch at open house. What fraction of the cups contain punch?

A  $\frac{1}{4}$       C  $\frac{2}{3}$   
B  $\frac{1}{3}$       D  $\frac{3}{4}$



- 2) Freida has  $\frac{3}{4}$  gallon of water with fertilizer for her seedlings. She is giving each seedling  $\frac{1}{8}$  of a gallon of the water. How many seedlings can she water?

a. 6      b. 4      c. 3      d.  $\frac{1}{4}$

- 3) Harmon wants to cut a  $9\frac{3}{4}$  inch strip of wood into 3 equal pieces. What will be the length of each piece after he cuts the wood?

A 3 in.      C  $6\frac{3}{4}$  in.  
B  $3\frac{1}{4}$  in.      D  $29\frac{1}{4}$  in.

- 4) Garrett drank  $\frac{3}{4}$  of a pitcher of sweet tea. There were  $2\frac{1}{2}$  cups of sugar in the pitcher. How much sugar did Garrett consume?

Decimals 5)

The price of a theater ticket increased from \$7.50 to \$7.75. The theater sold 315 tickets at the higher price. With the price increase, how much more did the theater earn on the tickets?

A \$78.00      C \$78.50  
B \$78.25      D \$78.75

## AT HOME PRACTICE Unit 3: Decimals



Calculator Inactive

- 1) Andy has a rope 0.9 m long. Sherry has a rope one and a half times as long as Andy's. How long is Sherry's rope?

A 0.45 m      C 1.80 m  
B 1.35 m      D 2.25 m

- 2) The price of a share of stock for company XYZ at the beginning of the week was \$24.75. Over the next five days, the stock gained \$2.50 on Monday, lost \$3.25 on Tuesday, lost \$0.75 on Wednesday, gained \$1.25 on Thursday, and gained \$4.75 on Friday. What was the price of the share of stock at the end of Friday?

A \$12.25      C \$29.25  
B \$25.75      D \$37.25

- 3) Riana was offered a job at a tutoring center. She earned \$7.25 per hour the first year and \$8.15 per hour the second year. If her hourly wages increase at the same rate each year, how much will she earn during her sixth year of work?

a. \$15.40      c. \$12.65  
b. \$11.75      d. \$10.85

- 4) Tickets to the planetarium cost a total of \$83.60 for a group of 22. If each ticket costs the same, what is the cost of one ticket?

a. \$2.30      c. \$2.80  
b. \$3.30      d. \$3.80

- 6) What is  $15.12 \div 0.036$

a. 0.42      c. 42.0  
b. 4.2      d. 420

## AT HOME PRACTICE Unit 2: Factors,



### Prime Factorization, GCF & LCM

#### Calculator Inactive

1) Which is the prime factorization of 88?

- a.  $3 \times 2^5$                       c.  $2 \times 4 \times 11$   
b.  $2^3 \times 11$                       d.  $2 \times 4^3$

2) What is the greatest common divisor of 54, 36, and 24?

- A 2                      C 6  
B 3                      D 9

3) Marcy is taking two types of medicine.

- She takes one medicine every 6 hours.
- She takes the other medicine every 4 hours.
- She takes both medicines at 9:00 a.m.

At what time will Marcy take both medicines together again?

- A 1:00 p.m.                      C 5:00 p.m.  
B 3:00 p.m.                      D 9:00 p.m.

4) Angie works in a pet store. She needs to divide 36 angelfish, 42 rainbow fish, and 126 goldfish into aquariums so that each aquarium has the same number of each type of fish, and there are no fish left over. What is the **greatest** number of aquariums Angie can fill under these conditions?

- A 6                      C 8  
B 7                      D 12

5) Monica was making candy bags for her party. She made one for each person coming to the party not including herself. She had 14 lollipops, 42 gumballs and 35 small chocolate bars. All the bags had the same amount of each candy and nothing was left over. How many bags did she make?

- A 2                      C 14  
B 7                      D 35

## AT HOME PRACTICE Unit 1: Order of Operations



### Calculator Inactive

1) Lindsay and Diego are arguing over the following problem. Lindsay says the solution is correct. Diego says that the solution is wrong. Which student has the correct answer?

**Choose:**

- ☐ Lindsay  
☐ Diego

$$12 \div 3 + 4 - 24 \div 3 \cdot 8$$

$$4 + 4 - 24 \div 24$$

$$8 - 1$$

$$7$$

2) Simplify  $70 - 4 \div 2 \times 5 + 7$

- a. 46                      c. 347  
b. 67                      d. 172

3) Evaluate the following expression

$$5 \div (4 - 3) \cdot 3^2 - 2$$

- a. 28                      c. 35  
b. 20                      d. 43

4) What is  $27 + 6^2 \div 9 \times 4 + (8 - 2^2)$ ?

- A 64                      C 32  
B 47                      D 29

5) Solve for  $n$

$$7 - 3 \cdot 2 + 4^2 = n$$

- A 15                      C 17  
B 16                      D 24

## AT HOME PRACTICE Unit 1: Exponents



Calculator Inactive

1) Simplify  $\frac{A^8}{A^6}$

- a.  $A^{-2}$       c.  $A^{48}$   
b.  $A^2$       d.  $A^{14}$

2) The mountains-to-Sea trail in North Carolina will stretch about  $10^3$  miles from the Great Smokey Mountains National Park to the Outer Banks. Which of the following represents the distance in standard notation?

- a. 30 mi      c. 1,000 mi  
b. 100 mi      d. 3,000 mi

3) What is the value of  $\left(\frac{1}{7}\right)^3$ ?

- A  $\frac{3}{7}$       C  $\frac{3}{343}$   
B  $\frac{1}{7}$       D  $\frac{1}{343}$

4) The Johnson Bell Company is having their annual companywide conference. The day starts out with a standard meet and greet. During this introduction three managers shake the hands of three other managers. Then those three managers shake three more managers' hands. If this hand shaking continues for 5 rounds, how many managers were involved in the hand shaking?

- a. 15      c. 81  
b. 125      d. 243

5) Simplify to one base number with one exponent  $F^5 \cdot F^2$

6) Simplify to one base number with one  $(X^2)^3$

7) Simplify the fraction  $\frac{15X^4W^7}{5X^5W^3}$