Name_____ Date _____

Chapter 1 Cumulative Assessment

1. Two points are plotted on the number line below.

Which of the following has the **greatest** value?

A. $W - X$

B. $X - W$

C. $W + X$

D. $X \bullet W$

2. GRIDDED RESPONSE What is the value of the expression below?

$$12 - 6 \bullet 3$$

3. The temperature at 6:00 P.M. was 15°C. The temperature dropped 2°C per hour. What was the temperature at 4:00 A.M.?

F. −5°C

G. −1°C

H. 1°C

I. 5°C

4. Which list shows the integers in order from **least** to **greatest**?

A. −8, −5, 0, 2, 6

B. 0, 2, −5, 6, −8

C. −5, −8, 0, 2, 6

D. 0, −8, −5, 2, 6

5. The table shows the results of three plays in a football game. What is the net result of the three plays?

F. –16 yards

G. –8 yards

H. 8 yards

I. 12 yards

Football Game	
1st play	5 yards
2nd play	–9 yards
3rd play	12 yards

6. What is the value of the expression below?

$$\left|48 \div (-6)\right| + \left|-35 \div 7\right|$$

A. −13

B. −3

C. 3

D. 13

Name _____ Date _____

Chapter 1 Cumulative Assessment (continued)

7. When $a = -9$ and $b = -6$, which expression has a value of -3?

F. $a + b$

G. $|a + b|$

H. $a - b$

I. $|a - b|$

8. Which of the following has the **greatest** value?

A. $|3|$

B. 0

C. $-|-5|$

D. $|-4|$

9. You record the daily low temperatures for four days at a ski lodge. What is the mean low temperature?

F. –16°C

G. –4°C

H. 2.5°C

I. 4°C

Low Temperature	
Thursday	–3°C
Friday	–6°C
Saturday	–5°C
Sunday	–2°C

10. EXTENDED RESPONSE In each of the equations or inequalities below, find all the **integer** values of x that make the equation or the pair of inequalities true. Explain your reasoning for each part.

Part A $|x| = 17$

Values of x _____

Part B $|x + 9| = 15$

Values of x _____

Part C $|x - 10| \leq 13$ and $|x - 10| \geq 9$

(Find the values of x that make both inequalities true.)

Values of x _____

Name_____ Date _____

Chapter 2 Cumulative Assessment

1. What is the value of the following expression when $x = -9$, $y = -2$, and $z = 3$?

$$\frac{x - z}{-y}$$

A. -6

B. -3

C. 3

D. 6

2. Which of the following has the **greatest** value?

F. $5 - 9$

G. $5 - (-9)$

H. $-5 - 9$

I. $-5 - (-9)$

3. GRIDDED RESPONSE What is the next number in the pattern below?

$5, -10, 20, -40, \ldots$

4. Which of the following describes a correct method for finding the sum below?

$$-\frac{7}{2} + \frac{3}{4}$$

A. Write the sum of the numerators over the sum of the denominators. Simplify.

B. Rewrite using the LCD. Write the sum of the numerators over the sum of the denominators. Simplify.

C. Rewrite using the LCD. Write the sum of the numerators over the common denominator. Simplify.

D. Rewrite using the LCD. Write the difference of the numerators over the common denominator. Simplify.

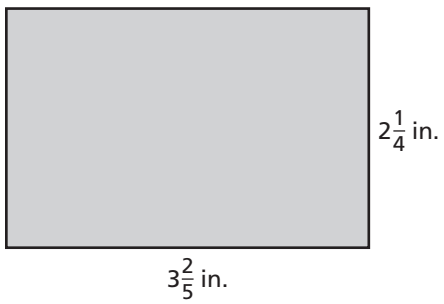
5. What is the area, in square inches, of the rectangle?

F. $5\frac{13}{20}$

G. $6\frac{1}{10}$

H. $7\frac{13}{20}$

I. $11\frac{3}{10}$



Name _____ Date _____

Chapter 2 Cumulative Assessment (continued)

6. Which of the following has the **greatest** value?

A. $|4.4|$

B. $|-4.28|$

C. $-\left|\frac{9}{2}\right|$

D. $\left|-4\frac{3}{5}\right|$

7. A board is $6\frac{1}{2}$ feet long. You cut off a $1\frac{3}{4}$-foot piece and a $2\frac{2}{3}$-foot piece. How much of the original board is left?

F. $-2\frac{1}{2}$ feet

G. $-\frac{1}{6}$ foot

H. $2\frac{1}{12}$ feet

I. $4\frac{5}{12}$ feet

8. A truck driver drove 49 miles in $1\frac{1}{3}$ hours. What was the average speed, in miles per hour, for this trip?

A. $32\frac{2}{3}$

B. $36\frac{3}{4}$

C. $50\frac{1}{3}$

D. $65\frac{1}{3}$

9. SHORT RESPONSE When working overtime, an auto mechanic gets paid 1.5 times the normal hourly wage. Overtime is the amount of time worked beyond 40 hours in a week. The auto mechanic's normal hourly wage is $21.00. Last week, the auto mechanic worked 46 hours.

Part A Write an expression to represent the amount of money earned last week. Explain your reasoning.

Expression _____

Part B Evaluate the expression you wrote in Part A to find the amount of money earned last week. Show your work.

The auto mechanic earned _____ last week.

Name_____ Date _____

Chapter 3 Cumulative Assessment

1. Which of the following equations is equivalent to the equation $-5(3x - 8) = -45$?

A. $-15x - 40 = -45$

B. $-15x + 40 = -45$

C. $-15x - 8 = -45$

D. $-15x + 8 = -45$

2. Which of the following lists is ordered from least to greatest?

F. $11, |4|, |-2|, 0, -6$

G. $0, |-2|, |4|, -6, 11$

H. $-6, 0, |-2|, |4|, 11$

I. $-6, |4|, |-2|, 0, 11$

3. GRIDDED RESPONSE What is the value of the expression below?

$$-58.8 \div (-3.5 \times 2)$$

4. Which of the following describes a correct method for solving the equation below?

$$-\frac{7}{2}n + 5 = -16$$

A. Add 5 to both sides, then divide both sides by $\frac{2}{7}$.

B. Subtract 5 from both sides, then multiply both sides by $-\frac{7}{2}$.

C. Add –5 to both sides, then multiply both sides by $-\frac{2}{7}$.

D. Subtract 5 from both sides, then add $\frac{7}{2}$ to both sides.

5. What is the area, in square inches, of a triangle with a base of $2\frac{1}{3}$ inches and a height of $2\frac{1}{4}$ inches?

F. $2\frac{5}{8}$

G. $4\frac{1}{24}$

H. $4\frac{1}{12}$

I. $5\frac{1}{4}$

Name _____ Date _____

Chapter 3 Cumulative Assessment (continued)

6. For which values of a and b is the following statement *not* true?

$$|a| - |b| = -5$$

A. $a = -3, b = 8$

B. $a = -2, b = -7$

C. $a = 3, b = 8$

D. $a = 7, b = 2$

7. A loon is flying at a height of 10 feet above a lake. The loon dives into the water to catch a fish that is at a depth of 6 feet. What is the change in elevation of the loon?

F. -16 feet

G. -10 feet

H. -4 feet

I. 16 feet

8. Which of the following is the sum of $\frac{1}{2}$ and $-\frac{2}{3}$?

A. $-1\frac{1}{6}$

B. $-\frac{1}{5}$

C. $-\frac{1}{6}$

D. $-\frac{1}{12}$

9. EXTENDED RESPONSE One year ago, Derek joined a health club. He paid a yearly membership fee of \$259.99 that covers all the club's services except use of the racquetball courts. Derek paid \$3.75 each time he used a racquetball court. For the entire year at the health club, Derek paid a total of \$436.24.

Part A Write an equation to represent the problem. Use r to represent the number of times Derek used one of the racquetball courts. Explain your reasoning.

Equation _____

Part B Solve the equation you wrote in Part A to find how many times Derek used a racquetball court. Show your work.

Derek used a racquetball court _____ times.

Name_____ Date _____

Chapter 4 Cumulative Assessment

1. Which inequality is represented by the graph shown below?

A. $x > 3$

C. $x < 3$

B. $x \geq 3$

D. $x \leq 3$

2. Which of the following decimals is equivalent to $\frac{9}{11}$?

F. 0.81

H. 0.82

G. $0.\overline{81}$

I. $1.\overline{2}$

3. GRIDDED RESPONSE Two inequalities are given below.

$$x - 2\frac{1}{2} \geq 2 \qquad 2.7 - x > -3.3$$

What whole number value of x is a solution to both inequalities?

4. Which inequality represents the word sentence below?

The quotient of a number c and -8 is at least -5.

A. $\frac{c}{-8} < -5$

C. $\frac{c}{-8} > -5$

B. $\frac{c}{-8} \leq -5$

D. $\frac{c}{-8} \geq -5$

5. Which description is a correct way to solve the equation below?

$$\frac{d}{-3} + 8.2 = 6.4$$

F. Subtract 8.2 from both sides, then divide both sides by -3.

G. Add 8.2 to both sides, then multiply both sides by -3.

H. Subtract 8.2 from both sides, then multiply both sides by -3.

I. Add 8.2 to both sides, then divide both sides by -3.

Name _____ Date _____

Chapter 4 Cumulative Assessment (continued)

6. What is the value of the expression below?

$$-23 - 17$$

A. -40 **C.** 6

B. -6 **D.** 40

7. Edwin was evaluating the expression below when $a = 3$ and $b = -6$.

$$a^2 - 18 + 4b$$

His work is shown in the box below.

$$\begin{aligned} a^2 - 18 + 4b &= 3^2 - 18 + 4(-6) \\ &= 9 - 18 + (-24) \\ &= 9 - (-6) \\ &= 15 \end{aligned}$$

What should Edwin do to correct the error that he made?

F. Add -18 and 4 before multiplying by -6.

G. Substitute 3 for b and -6 for a.

H. Add 4 and -6.

I. Subtract 18 from 9 before adding.

8. SHORT RESPONSE A freight elevator can hold a maximum weight of 3,500 pounds.

Part A A deliveryman weighs 200 pounds. He is delivering cartons that each weigh 48 pounds. He wants to know how many cartons he can safely put on the elevator at one time. Let c represent the number of cartons. Write an inequality that represents this situation.

Inequality _____

Part B Solve your inequality from Part B. Show your work fully. Explain what your solution means.

Name_____ Date _____

Chapter 5 Cumulative Assessment

1. Suppose that the equation below is true.

$$\frac{a}{b} = 5$$

Which of the following equations is also true?

A. $\frac{a+2}{b+2} = 5$

B. $\frac{a-2}{b-2} = 5$

C. $\frac{2a}{2b} = 5$

D. $\frac{2a}{2b} = 2(5)$

2. Which of the following has the **greatest** value?

F. $9 + (-9)$

G. $9 - (-9)$

H. $9 \bullet (-9)$

I. $9 \div (-9)$

3. GRIDDED RESPONSE How many **miles** are equivalent to 3.1 kilometers? (Use 1 kilometer $\approx$ 0.62 mile.)

4. What is the perimeter, in yards, of a rectangular garden that has a length of 10 yards and a width of 5 yards?

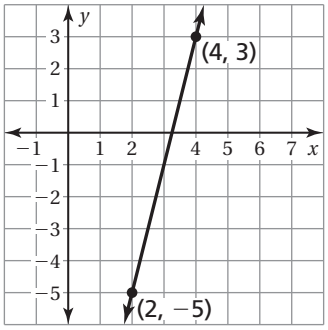
A. 15

B. 25

C. 30

D. 50

5. A line is graphed on the coordinate grid below.



Which of the following points is found on the line?

F. $(3, -2)$

G. $(3, 0)$

H. $(5, 6)$

I. $(5, 7)$

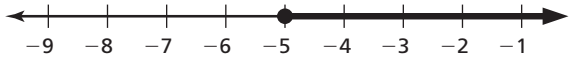
Name _____ Date _____

Chapter 5 Cumulative Assessment (continued)

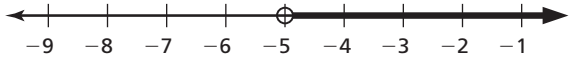
6. Which graph represents the solution of the inequality below?

$$15 \leq -3x$$

A.

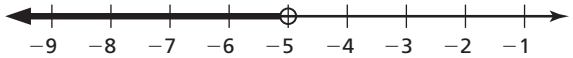


B.



C.

D.



7. Which of the following describes a correct method for solving the equation below?

$$\frac{4}{9} + z = 30$$

F. Add $\frac{4}{9}$ to each side.

G. Subtract $\frac{4}{9}$ from each side.

H. Multiply each side by $\frac{4}{9}$.

I. Multiply each side by $\frac{9}{4}$.

8. What are the two numbers that could go in the box to make the equation below true?

$$\left| 6 + \square \right| = 4$$

A. -4 and 4

B. -2 and 2

C. 2 and 10

D. -2 and -10

9. EXTENDED RESPONSE The school band decided to raise money by holding a car wash. The band spent \$32 to buy the needed supplies. They will charge \$5 for each car that they wash.

Part A Create a table showing the profit (total money earned minus expenses) that the band will make for washing 1 through 10 cars. Explain your reasoning.

Part B What will be the band's profit for washing 40 cars? Explain your reasoning.

Profit for 40 cars \$_____

Part C At some point during the day, could the band ever have a profit of exactly \$107? Explain your reasoning.

Name_____ Date _____

Chapter 6 Cumulative Assessment

1. Sonja bought a new van for her business. The cost of the van was $35,000, and she had to pay 6% sales tax. What was the total cost of the van, including tax?

A. $32,900

B. $35,210

C. $35,600

D. $37,100

2. What is the value of the expression $\frac{3}{4} \div \left(-\frac{1}{8}\right)$?

F. -6

G. $-\frac{1}{6}$

H. $\frac{1}{6}$

I. 6

3. **GRIDDED RESPONSE** A radio station gave free tickets to 10% of the people attending a concert. The radio station gave 640 people free tickets. What is the total number of people who attended the concert?

4. The Sharadze family is planning a car trip to Atlanta, Georgia, which is 279 miles from their home. They plan to drive at an average speed of 62 miles per hour. They also plan to stop for lunch for 45 minutes. Based on their plan, when should they leave in order to arrive in Atlanta at 3:00 P.M.?

A. 9:25 A.M.

B. 9:45 A.M.

C. 10:30 A.M.

D. 11:15 A.M.

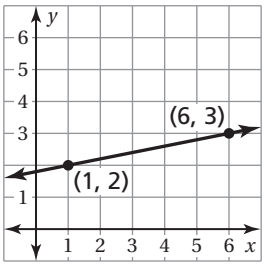
5. What is the slope of the line?

F. $\frac{1}{5}$

G. $\frac{1}{2}$

H. 2

I. 5



6. What number goes in the box below to make the statement true?

6% of ☐ is 300.

A. 18

B. 180

C. 500

D. 5000

Name _____ Date _____

Chapter 6 Cumulative Assessment (continued)

7. Two candidates ran for the office of county commissioner. They were the only two candidates who received votes in the election.

- Ms. Talmadge received 45% of the votes.
- Mr. Rodriguez received 171,919 votes.

What was the total number of votes cast in the election?

F. 140,661 **H.** 312,580

G. 249,283 **I.** 382,042

8. Which of the following describes a correct method for solving the equation below?

$$8 - y = -4$$

A. Add 8 to both sides.

B. Subtract 8 from both sides.

C. Add 8 to both sides, then add y to both sides.

D. Subtract 8 from both sides, then divide both sides by -1.

9. What is the solution of the inequality below?

$$-\frac{4}{5}x \geq \frac{1}{10}$$

F. $x \leq -\frac{2}{25}$ **H.** $x \leq -\frac{1}{8}$

G. $x \geq -\frac{2}{25}$ **I.** $x \geq -\frac{1}{8}$

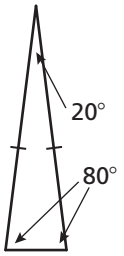
10. SHORT RESPONSE Dwayne wants to buy a bowling ball that has a price of $120. As a member of a bowling league, he is entitled to a 15% discount off the price of the bowling ball. He will also have to pay 6% sales tax on the discounted price of the bowling ball.

Dwayne thinks that the final price of the bowling ball can be determined by taking 9% off the original price. Is Dwayne correct? Support your answer with a detailed explanation.

Name_____ Date _____

Chapter 7 Cumulative Assessment

1. Which statement describes the triangle shown below?



A. It is isosceles and acute.

B. It is isosceles and obtuse.

C. It is scalene and acute.

D. It is scalene and obtuse.

2. A store owner rents a space in the mall for her store. The mall owner just increased the amount of her rent. As a result, the store owner decides to raise all prices in her store by 8%. What is the new price of an item that had an original price of $75?

F. $81.00

G. $83.00

H. $93.75

I. $135.00

3. GRIDDED RESPONSE A recipe calls for $1\frac{3}{16}$ cups of flour. Write the amount of flour the recipe uses as a decimal.

4. Which expression is equivalent to 48.65?

A. $3.892 \div 0.08$

B. $38.92 \div 0.08$

C. $389.2 \div 0.8$

D. $3892 \div 8$

5. What number belongs in the box to make the statement true?

$$-\frac{3}{\square} = -\frac{1}{3}$$

F. -9

G. -1

H. 1

I. 9

Name _____ Date _____

Chapter 7 Cumulative Assessment (continued)

6. Which of the following are always congruent?

A. adjacent angles

B. vertical angles

C. complementary angles

D. supplementary angles

7. The students in Mrs. Spitzer's class took the same math test. The results of four students are listed below.

Maria answered $\frac{4}{5}$ of the problems correctly.

Monica answered 0.9 of the problems correctly.

Kevin answered $\frac{3}{4}$ of the problems correctly.

Julian answered 86% of the problems correctly.

Which student answered the **most** problems on the test correctly?

F. Maria

G. Monica

H. Kevin

I. Julian

8. EXTENDED RESPONSE You design a logo for a marketing company. As part of the proposal, you submit a scale drawing of the logo.

Part A The scale drawing is a parallelogram with a base of 8 inches, a height of 3 inches, and a side length of 4 inches. Draw and label the shape of the logo.

Part B What is the perimeter and area of the logo in the scale drawing?

Perimeter: _____ Area: _____

Part C The scale drawing has a scale factor of 4 : 1. What is the perimeter and area of the actual logo?

Perimeter: _____ Area: _____

Name_____ Date _____

Chapter 8 Cumulative Assessment

1. Ms. Donahue rents a space in the mall for her store. The mall owner just increased the amount of her rent. As a result, Ms. Donahue decided to raise all the prices in her store by 5%. What is the new price of an item that had an original price of $80?

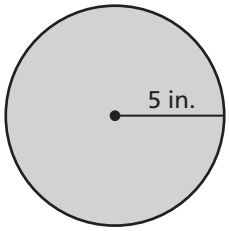
A. $84

B. $85

C. $120

D. $160

2. **GRIDDED RESPONSE** What is the area, in square inches, of the circle below? Use 3.14 for π.



3. When doubled, a recipe calls for $\frac{7}{4}$ cups of flour. Which of the following is equivalent to $\frac{7}{4}$?

F. 7.4

G. 1.75

H. 0.571

I. 0.28

4. Which equation does NOT correctly use the distributive property?

A. $a(b + c) = ab + ac$

B. $a(b - c) = ab - ac$

C. $(a + b)c = ac + bc$

D. $a + (b + c) = (a + b) + (a + c)$

5. The profit y from selling x muffins can be represented by a linear function. The profit from selling 5 muffins is $4. The profit from selling 7 muffins is $8. What is the slope of the line represented by the data?

F. $\frac{1}{2}$

G. 1

H. $\frac{4}{5}$

I. 2

Name _____ Date _____

Chapter 8 Cumulative Assessment (continued)

6. The circular flying discs used for two games are shown below.

Game 1

Game 2

The circumference of the flying disc for the first game is how many centimeters greater than the circumference of the flying disc used for the second game, to the nearest centimeter? Use 3.14 for π.

A. 2

B. 5

C. 8

D. 15

7. Selena was finding the area of a circle with a radius of 7 units. Her work is shown in the box below.

$$\begin{aligned} A &= \pi r^2 \\ &= 3.14 \times 7^2 \\ &= 3.14 \times 14 \\ &= 43.96 \text{ units}^2 \end{aligned}$$

What should Selena do to correct the error that she has made?

F. Use 14 for the value of r.

G. Use 3.5 for the value of r.

H. Use 49 instead of 14 for 7^2.

I. Use the formula $2\pi r$.

8. **SHORT RESPONSE** Explain how you know when two angles are complementary angles and when two angles are supplementary angles.

Name_____ Date _____

Chapter 9 Cumulative Assessment

1. To cover increasing costs, Mr. Ochaeta is marking up all the prices of the items in his sporting goods store by the same percent. A basketball that costs $40 is marked up to a new price of $45. By what percent did Mr. Ochaeta mark up the prices?

A. 1.25%

B. 88.8%

C. 8%

D. 12.5%

2. The actual area of a square patio is 144 square feet. On a scale drawing, the area of the patio is 9 square inches. What scale was used to create the scale drawing?

F. 1 inch : 4 feet

G. 1 inch : 9 feet

H. 1 inch : 12 feet

I. 1 inch : 16 feet

3. What is the value of the expression below?

$$3\frac{3}{8} \bullet \left(-\frac{1}{2}\right)$$

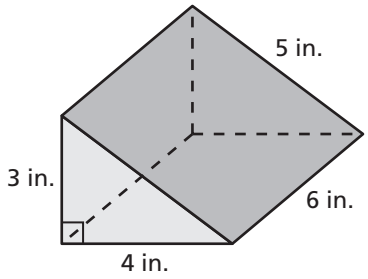
A. $6\frac{3}{4}$

B. $3\frac{3}{16}$

C. $-3\frac{3}{16}$

D. $-1\frac{11}{16}$

4. A right triangular prism and its dimensions are shown below.



What is the total surface area, in square inches, of the right triangular prism?

F. 84

G. 96

H. 180

I. 360

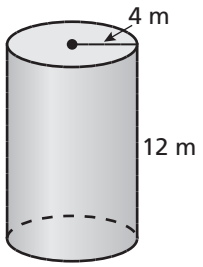
Name _____ Date _____

Chapter 9 Cumulative Assessment (continued)

5. GRIDDED RESPONSE Simplify the expression below.

$$-103.2 \div (-15.3 + 6.7)$$

6. A cylinder and its dimensions are shown below.



What is the surface area of the cylinder (Use 3.14 for π.)

A. 100.48 m^2

B. 301.44 m^2

C. 401.92 m^2

D. 602.88 m^2

7. Solve the equation below for x.

$$2(x + 5) = 3(x - 4)$$

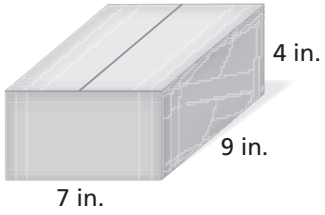
F. $-\frac{22}{5}$

G. -2

H. $\frac{22}{5}$

I. 22

8. EXTENDED RESPONSE A box is in the shape of a rectangular prism. The dimensions of the prism are shown below.



Part A A manufacturer doubles the height of the prism. What is the new volume and surface area? How does this affect the volume of the prism?

Part B The manufacturer wants to triple the volume of the prism in Part A. Which dimension should he triple to use the least amount of material? Explain your reasoning.

Name_____ Date _____

Chapter 10 Cumulative Assessment

1. The name of a city is shown below.

C H A T T A H O O C H E E

James will pick one letter at random from the name of this city. What is the probability that he will pick a letter that can also be found in the name "James"?

A. $\frac{1}{3}$

B. $\frac{2}{13}$

C. $\frac{4}{9}$

D. $\frac{4}{13}$

2. What is 15% of 60?

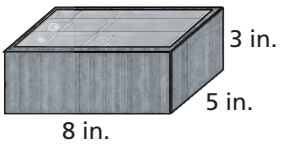
F. 0.9

G. 2.5

H. 4

I. 9

3. The dimensions of a jewelry box are shown. How much wood do you need to make the box?



A. 120 square inches

B. 120 cubic inches

C. 158 square inches

D. 158 cubic inches

4. GRIDDED RESPONSE Reggie and Tanya are making their lunches for school. Each of them will randomly pick one piece of fruit from a basket in their kitchen. There are 2 apples and 3 oranges in the basket. What is the probability that both Reggie and Tanya will pick an apple? (Hint: Reggie will first pick a piece of fruit, and Tanya will then pick from what remains.)

5. A box of tissues is in the shape of a rectangular prism. The length of the box is 23 centimeters, the width is 12 centimeters, and the height is 8 centimeters. What is the volume, in cubic centimeters, of the box?

F. 556

G. 1104

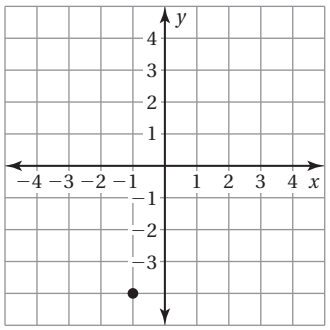
H. 1112

I. 2208

Name _____ Date _____

Chapter 10 Cumulative Assessment (continued)

6. The point $(-1, -4)$ is plotted on the coordinate grid below.



Douglas correctly graphed a line through the point $(-1, -4)$ that has a slope of 4. Which of the following points is also on the line that he graphed?

A. $(3, -4)$

B. $(-1, 0)$

C. $(1, 4)$

D. $(0, 4)$

7. There are four schools in your division for sports. You counted the number of soccer players and the number of football players in each school. Your results are shown in the table below.

School	Soccer	Football
A	20	40
B	12	18
C	15	35
D	26	42

Based on the table, which school has the greatest ratio of soccer players to football players?

F. School A

G. School B

H. School C

I. School D

8. SHORT RESPONSE You have 4 blue marbles, 3 red marbles, 2 green marbles, and 3 yellow marbles in a bag. You randomly choose one marble.

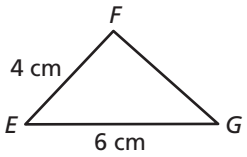
Part A How many possible outcomes are there?

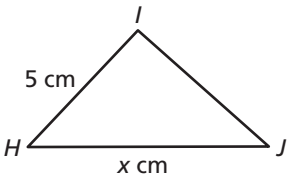
Part B Describe the likelihood of choosing *not* blue. Explain your reasoning.

Name_____ Date _____

Chapter 11 Cumulative Assessment

1. The figures are similar.





What is the value of x?

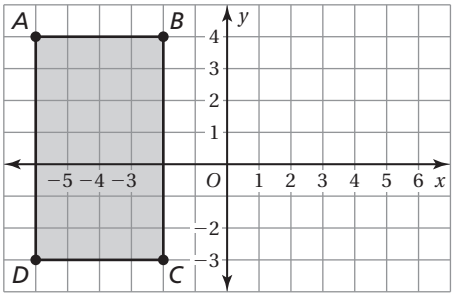
A. 4.8

B. 7

C. 7.5

D. 8

2. GRIDDED RESPONSE Rectangle $ABCD$ is graphed on the coordinate grid below.



Reflect Rectangle $ABCD$ over the y-axis. What is the x-coordinate of point A'?

3. Ben was solving the equation in the box shown. What should Ben do to correct the error that he made?

$$-5x + \frac{3}{4} = -\frac{1}{3}$$

$$-5x + \frac{3}{4} - \frac{3}{4} = -\frac{1}{3} - \frac{3}{4}$$

$$-5x = -\frac{13}{12}$$

$$\frac{1}{5} \bullet (-5x) = \left(-\frac{13}{12}\right) \bullet \frac{1}{5}$$

$$x = -\frac{13}{60}$$

F. Add $\frac{3}{4}$ to each side to get $-5x = \frac{5}{12}$.

G. Subtract $\frac{3}{4}$ from each side to get $-5x = -\frac{4}{7}$.

H. Divide each side by -5 to get $x + \frac{3}{4} = \frac{1}{15}$.

I. Multiply each side by $-\frac{1}{5}$ to get $x = \frac{13}{60}$.

Name _____ Date _____

Chapter 11 Cumulative Assessment (continued)

4. The vertices of a triangle are $A(8, -24)$, $B(8, -8)$, and $C(16, -8)$. If the triangle is dilated by a scale factor of $\frac{1}{4}$, what will be the coordinates of A'?

A. $(32, -56)$

B. $(4, -2)$

C. $(2, -2)$

D. $(2, -6)$

5. Which description is the correct way to solve the equation below?

$$7x - 3 = -31$$

F. Add 3 to both sides then divide both sides by 7.

G. Subtract 3 from both sides then divide both sides by 7.

H. Add 3 to both sides then multiply both sides by 7.

I. Subtract 3 from both sides then multiply both sides by 7.

6. Mr. Glidden is expanding the size of his garden. His new garden will be 3 times as long and 2 times as wide as his original garden.

The perimeter of his original garden is 30 feet and the length is 11 feet. What will be the perimeter, in feet, of his new garden?

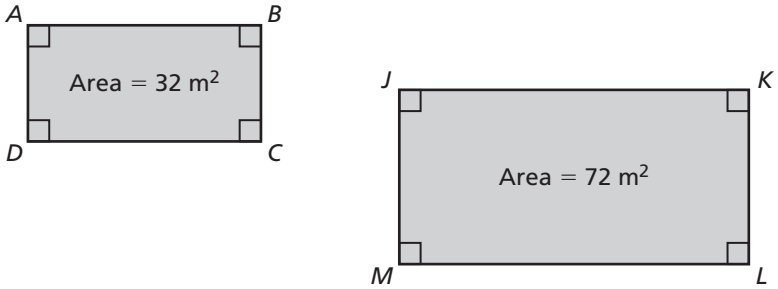
A. 75

B. 82

C. 142

D. 180

7. SHORT RESPONSE Rectangle *ABCD* is similar to Rectangle *JKLM*.



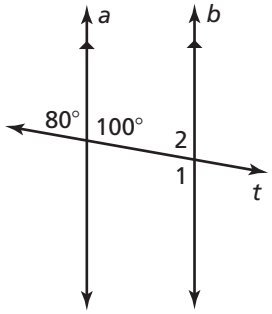
Part A What is the ratio (*ABCD* to *JKLM*) of the corresponding side lengths?

Part B Side *BC* is 4 meters long. Side *CD* is twice the length of side *BC*. What is the length of side *LM*? Explain your reasoning.

Name_____ Date_____

Chapter 12 Cumulative Assessment

1. What is the measure of $\angle 1$?



A. 80°

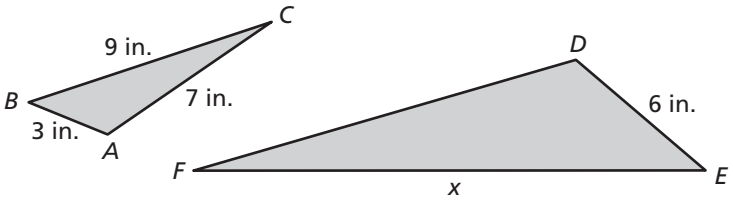
C. 100°

B. 90°

D. 180°

2. **GRIDDED RESPONSE** All of the angles in a regular octagon are congruent. What is the measure of each angle, in degrees?

3. The figures are similar.



What is the value of x?

F. 2 inches

H. 14 inches

G. 7.7 inches

I. 18 inches

4. What value of x makes the equation below true?

$$\frac{x}{2} - 6 = -14$$

A. -40

C. -10

B. -16

D. -4

Name _____ Date _____

Chapter 12 Cumulative Assessment (continued)

5. Anita was solving the equation in the box below.

$$\begin{aligned} 4x - 12 &= 7x + 21 \\ \underline{+4x} & \quad \underline{+4x} \\ -12 &= 11x + 21 \\ \underline{-21} & \quad \underline{-21} \\ \frac{-33}{11} &= \frac{11x}{11} \\ -3 &= x \end{aligned}$$

What should Anita do to correct the error that she made?

F. Subtract $4x$ from each side.

G. Add 21 to each side.

H. Multiply each side by 11.

I. Add $7x$ to each side.

6. The vertices of a triangle are $A(-4, 5)$, $B(-4, 1)$, $C(-1, 1)$. Rotate the triangle $180°$ about the origin. What are the coordinates of A'?

A. $(4, -5)$

B. $(5, 4)$

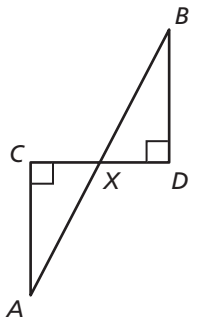
C. $(-5, -4)$

D. $(-5, 5)$

7. EXTENDED RESPONSE In the diagram shown, $\overline{AB}$ crosses $\overline{CD}$ at point X.

Part A Explain how you can tell that $\triangle ACX$ is similar to $\triangle BDX$.

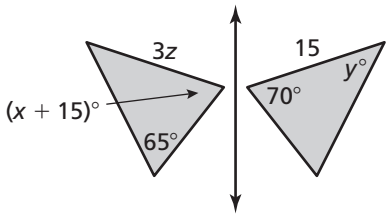
Part B Suppose the measure of $\angle A$ is $35°$. List the measures of the remaining angles.



Name_____ Date _____

Chapter 15 Cumulative Assessment

1. The transformation below is a reflection. What are the values of the variables?



A. $x = 55, y = 45, z = 5$

B. $x = 55, y = 65, z = 5$

C. $x = 55, y = 45, z = 3$

D. $x = 85, y = 65, z = 5$

2. GRIDDED RESPONSE Evaluate the following expression.

$$\sqrt[3]{64}$$

3. Solve the equation below for x.

$$2(x + 5) = 3(x - 4)$$

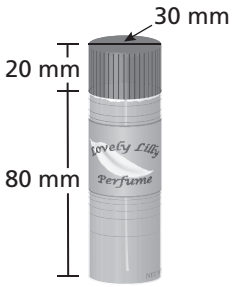
F. $-\frac{22}{5}$

G. -2

H. $\frac{22}{5}$

I. 22

4. What is the approximate volume of the perfume in the perfume bottle?



A. 8954 cubic millimeters

B. 10,838 cubic millimeters

C. 56,549 cubic millimeters

D. 70,686 cubic millimeters

Name _____ Date _____

Chapter 15 Cumulative Assessment (continued)

5. What value of n makes the equation below true?

$$\frac{n}{2} - 6 = -14$$

F. -40

H. -10

G. -16

I. -4

6. Which equation represents a line with a slope of -3 that goes through the point $(2, 1)$?

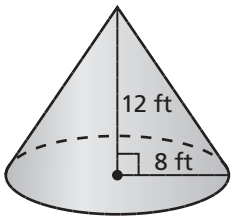
A. $y = 3x + 7$

C. $y = -3x + 7$

B. $y = -3x + 1$

D. $y = 3x + 1$

7. A right circular cone and its dimensions are shown below. What is the approximate volume of the cone?



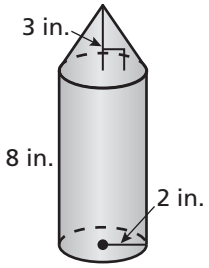
F. 100.53 cubic feet

H. 804.24 cubic feet

G. 502.40 cubic feet

I. 2412.74 cubic feet

8. SHORT RESPONSE The figure below is a diagram for making a tin lantern.



What is the approximate volume, in cubic inches, of the entire lantern? Show your work and explain your reasoning.

Name_____ Date _____

Chapter 16 Cumulative Assessment

1. The steps Antonio took to write 4.0×10^{-3} in standard form are given below. What should Antonio change in order to write the number correctly?

$$4.1 \times 10^{-3} = 4.100$$
$$= 4100$$

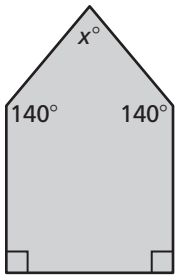
A. Keep 4.1 and attach three zeroes at the end.

B. Move the decimal point one place to the right and attach three zeroes at the end of 41.

C. Multiply 10 times -3 and then multiply the product by 4.1.

D. Move the decimal point three places to the left.

2. **GRIDDED RESPONSE** Find the value of x.



3. The mass of a grain of sand is about 10^{-3} gram. About how many grains of sand are there in a 2-kilogram bag of sand?

F. 1,000

G. 2,000

H. 200,000

I. 2,000,000

4. A baseball diamond is a square with a side length of 90 feet. Third base and first base form opposite corners of the square. When a fielder throws the ball from third base to a fielder at first base, how far is the throw?

A. 90 feet

B. about 127 feet

C. about 135 feet

D. 180 feet

Name _____ Date _____

Chapter 16 Cumulative Assessment (continued)

5. The body length of a daddy long-legs spider is about 0.000002 kilometer. Write this length in scientific notation.

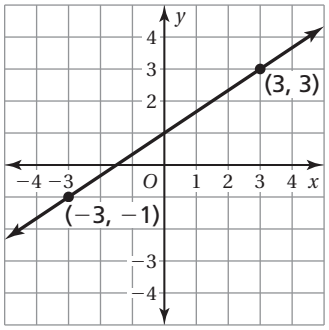
F. 2.0×10^{-6} kilometer

G. 2.0×10^{-5} kilometer

H. 2.0×10^{5} kilometer

I. 2.0×10^{6} kilometer

6. What is the slope of the line shown in the graph below?



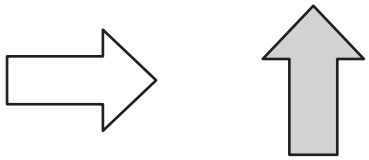
A. $-\frac{2}{3}$

B. $\frac{2}{3}$

C. 1

D. $\frac{3}{2}$

7. Which transformation is shown below?



F. translation

G. reflection

H. rotation

I. dilation

8. SHORT RESPONSE Two students disagree over the meaning of the expression $9^6 \bullet 9^7$. One student says that it equals 9^{13}. The other student says that it equals 9^{42}. The first student says that the rule is to add exponents. The second student says that the rule is to multiply exponents. Show the students step-by-step why one of the rules is correct.