

## STUDY GUIDE for 6<sup>th</sup> Grade Math Unit 1

1. What is the Greatest Common Factor (GCF) of 12 and 42 ? CC.6.NS.4

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2. What is the Least Common Multiple(LCM) of 5 and 20? CC.6.NS.4

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3. Compute:  $\frac{1}{2} \div \frac{3}{5} =$  CC.6.NS.1

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4. Compute:  $1,476 \div 18 =$  CC.6.NS.2

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5. Refer to the October calendar to the right. Jay's trash is picked up on days that are multiples of 5 and the paper is delivered on days that are multiples of three. How many dates in October is the trash picked up on the same day the paper is delivered? CC.6.NS.4

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

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6. A floor is 14.7 feet by 13 feet. What is the area of the room?  
(hint:  $Area = length \times width$ ) CC.6.NS.3

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7. There are 1,775 pennies in Jay's jar. If 25 pennies are needed to fill a bag, how many whole bags can Jay fill? CC.6.NS.2

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8. The spaceship travels around the sun at a speed of 12.6 miles per second. How far will it travel in 45 seconds? CC.6.NS.3

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*Use the chart to the right to answer questions 9 and 10.*

9. What was the difference between John and Bob in the chart? CC.6.NS.3

10. How much time did it take Ally, Jeff & Kate all together? CC.6.NS.3

Racer	Time
Ally	53.96
Bob	54.15
Jeff	54.3
John	54.33
Kate	54.41

11. The height of dachshunds is usually  $\frac{1}{3}$  their length. If Mollie is 20 inches long, how tall is she? CC.5.NF.6

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12. For which number will a list of its factors include 7?  
A. 24                      B. 26                      C. 28                      D. 30 CC.6.NS.4



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13. There are 14.25 carpet tiles lined up on the floor and each one is 2.5 feet long. How long is the line of carpet tiles? CC.6.NS.3

14. You are taking a bus trip from LaGrange to New Orleans. You will have to drive 491.2 miles. The bus gets 8 miles per gallon. How many gallons of gas will the bus use driving from LaGrange to New Orleans? CC.6.NS.3
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15. Is  $2(9 + 12) = 42$ ? Why or why not? CC.6.NS.4
- A. Yes, because  $2 \cdot 9 = 18$ ; and  $18 + 18 = 42$   
B. Yes, because  $2 \cdot 9 = 18$ ; and  $2 \cdot 12 = 24$ ; and  $18 + 24 = 42$   
C. No, because  $2 \cdot 9 = 18$ ; and  $18 + 12 = 30$   
D. No, because  $2 \cdot 9 = 18$ ; and  $9 \cdot 12 = 108$ ; and  $18 + 108 = 126$
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16. Which number is both a multiple of 6 and a factor of 60? CC.6.NS.4
- A. 10                      B. 12                      C. 15                      D. 20
- 

17. Which number sentence is represents what is in the model?   $\div$    $= ?$
- A.  $12 \div 2 = 6$                       B.  $10 \div 1 = 10$                       C.  $2\frac{1}{2} \div \frac{1}{2} = 5$                       D.  $\frac{12}{4} \div \frac{2}{4} = 6$
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18. What is the LCM of 6 and 8? CC.6.NS.4
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19. Which of the following choices is equal to  $22 + 36$ ? CC.6.NS.4
- A.  $2(11 + 16)$                       B.  $2(11 + 18)$                       C.  $3(7 + 12)$                       D.  $3(22 + 12)$

Lln;n

Study Guide 6<sup>th</sup> Grade  
Unit 2 Troup County Schools

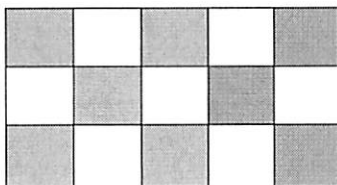
1. If the ratio of dogs to cats is 7 to 3, this means...

CC.RP.1

- A. For every 7 cats, there is one dog.      B. For every 7 cats, there are 3 dogs.  
C. For every 7 dogs, there is one cat.      D. For every 7 dogs, there are 3 cats.

Use the diagram to answer questions 2, 3, and 4.

The new floor in the school hall is going to be constructed of square tiles that are either gray or white, in the pattern below.



2. What is the ratio of gray tiles to white tiles?

CC.RP.1

3. What is the ratio of white tiles to the total number of tiles in the pattern?

CC.RP.1

4. If the total cost of those white tiles is \$3.50, what is the unit cost per white tile?

CC.RP.2

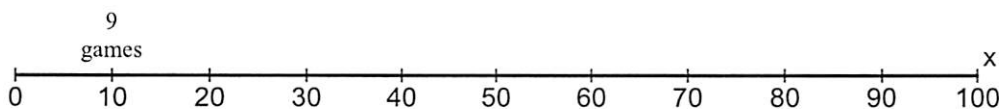
5. Apples are on sale 5 for \$3.15. At this rate, what is the cost of one apple?

CC.RP.2

6. Ally ate 240 grapes in 6 days. Which rate below is equivalent to Ally's rate?

CC.RP.2

- A. 60 grapes in 2 days      A. 60 grapes in 3 days      C. 120 grapes in 2 days      D. 120 grapes in 3 days



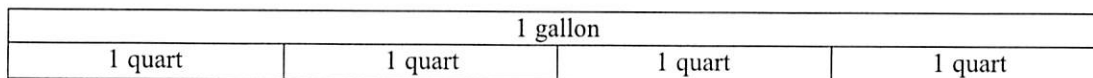
7. Deshun went to visit Zakia and he brought 9 video games, which is 10% of his collection. Using the number line above, determine how many video games Deshun has all together.

CC.6.NS.1

8. Use the information in the table to find the number of inches in 9 feet.

Feet	1	2	3	4	9
Inches	12	24	36	48	?

CC.RP.3



9. Use the tape diagram above to determine how many quarts are in  $2\frac{1}{2}$  gallons.

10. The lawn mower says to mix 3 ounces of oil with 15 gallons of gasoline. How much oil would you use if you had 45 gallons of gasoline?

CC.RP.3

Use the chart to answer questions 11 & 12.

Number of Laps	2	6	8
Time (minutes)	6	12	18

11. Kay runs laps. Choose the numbers to complete the chart.  
 A. 3 & 22      B. 3 & 24      C. 4 & 22      D. 4 & 24

12. Based on the chart above, how long do you predict it will take Kay to run 10 laps?  
 CC.RP.3

13. The boat traveled 24 miles in 5 hours. How far should it travel in 1 hour?  
 CC.RP.3

14. Abe spent \$144.00 for four bags of grass seed. How much did he spend on each bag?  
 CC.RP.3

15. A simple recipe calls for 2 cups flour, 1 cup sugar, and  $\frac{1}{2}$  cup butter. How many cups of flour are needed to mix with each cup of butter?  
 CC.RP.3

16. If 4 is 25% of a value, what is that value?  
 CC.RP.3

17. You and a friend baked 400 cupcakes together. If your friend baked 60% of the cupcakes, how many cupcakes did you bake?  
 CC.6.RP.3

18. Beth has to do 20 math problems tonight. She has completed 20%. How many problems has she completed?  
 CC.RP.3

19. Which point is at (3, 6) ?

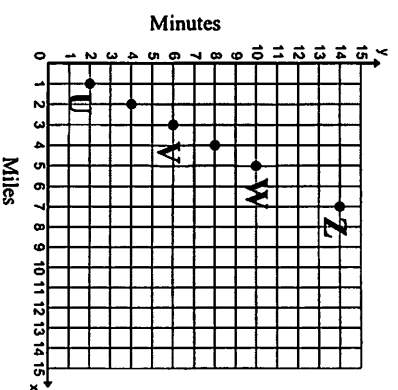
- A. point U      B. point V      C. point W      D. point Z

20. Which answer below explains point U?

- A. He goes 1 mile in 1 minute.      B. He goes 1 mile in 2 minutes.  
 C. He goes 2 miles in 1 minute.      D. He goes 2 miles in 2 minutes.

21. How long do you think it would take to go 16 miles ?

- A. 8 minutes      B. 16 minutes  
 C. 24 minutes      D. 32 minutes



Unit 3 Study Guide  
6th Grade Troup County Schools

1. Write an expression that matches; "8 less than z". CC.6.EE.2

2. Which verbal expression matches:  $4(z + 2)$  ? CC.6.EE.2

- A. four times z and add 2      B. four times the sum of z and 2      C. four and z and 2

3. Which expression equals 20? CC.6.EE.4

- A.  $4^2 + 12$       B.  $2^3 \cdot 3 + 2$       C.  $8 + 4 \cdot 3 = 20$       D.  $12 + 28 \div 2$

4. Simplify.  $8^2 + 2$  CC.6.EE.1

5. Evaluate:  $xy + z^2$  ; if  $x = 5$ ,  $y = 2$ , and  $z = 6$  CC.6.EE.2

6. Evaluate:  $19 - 6 \cdot 2$  CC.6.EE.2

7. If  $m = 100$  what is the value of  $q$ ?  $q = 21.344m$  CC.6.EE.2

- A. 213.44      B. 2,134.4      C. 21,344      D. 213,440

8. Simplify:  $3^2 + 24 \div (5 - 3)$  CC.6.EE.1

9. Choose the expression that matches: "the product of  $p$  and 12". CC.6.EE.2

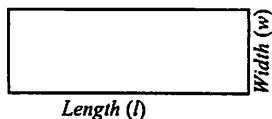
- A.  $p + 12$       B.  $p - 12$       C.  $p \cdot 12$       D.  $p \div 12$

10. Which expression that is equivalent to:  $x + x$  . CC.6.EE.4

- A.  $\sqrt{x}$       B.  $x^2$       C.  $2x$       D.  $xx$

11. Evaluate  $4z - 5y$  ; when  $z = 8$  and  $y = 3$ . CC.6.EE.2

12. The distance around a rectangle is the perimeter. Choose the 2 expressions that show ways to find the perimeter. CC.6.EE.2



- A.  $l \cdot w$       B.  $2(l + w)$       C.  $2l + 2w$       D.  $2(l \cdot w)$

13. Which expression is equivalent to:  $5(3x + 2)$  . CC.6.EE.4

- A.  $15x + 2$       B.  $15x + 10$       C.  $8x + 2$       D.  $8x + 10$

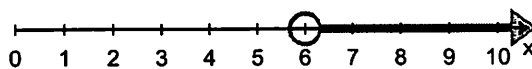
**For question #'s 14 - 19, choose from the following statements: NO C or D answers here!**

CC.6.EE.3 and CC.6.EE.4

- A. Always true      B. Never true

- |                          |                 |
|--------------------------|-----------------|
| 14. $a - b = b - a$      | 17. $ab = ba$   |
| 15. $a(b + c) = ab + ac$ | 18. $a + 0 = a$ |
| 16. $a \cdot 1 = a$      | 19. $a(0) = a$  |

## Study Guide 6<sup>th</sup> Grade Unit 4



1. Write an inequality that describes the number line above.

CC.6.EE.8

2. Jon earns \$77 per week. Choose the expression below to help him find out how much he'll earn after  $x$  weeks. CC.6.EE.6

A.  $x + 77$

B.  $77x$

C.  $x - 77$

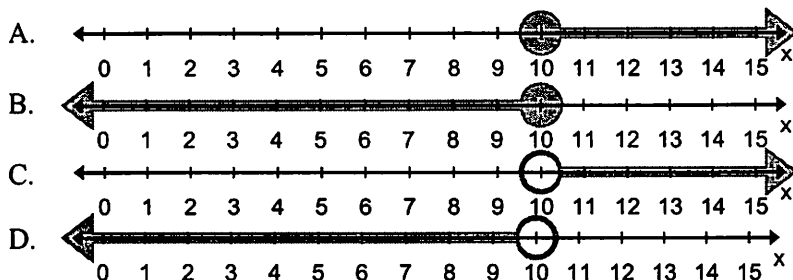
D.  $77 + x$

3. Write an inequality that matches the statement "the temperature is more than 70° F".

CC.6.EE.8

4. Choose the graph below that illustrates "There must be fewer than 10 people in the van".

CC.6.EE.8



5. Jack has \$125 to spend. Used video games are \$15.50 each. Which equation could Jack use to find out how many games he can afford to buy?

CC.6.EE.6

A.  $125x = 15.50$

B.  $15.50x = 125$

C.  $\frac{15.50}{x} = 125$

D.  $125 + x = 15.50$

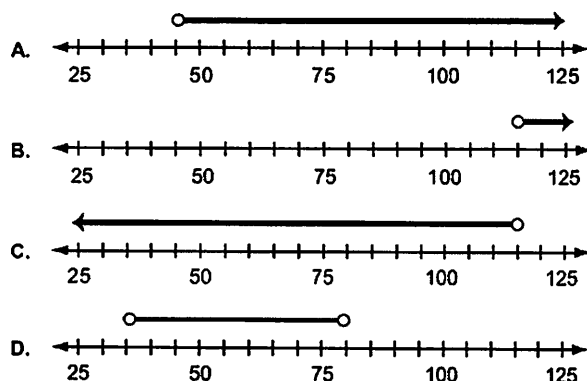
6. Each ride at the fair costs \$2.50. How much would it cost for 7 rides?

CC.6.EE.6

Rides, $x$	1	2	3
Money, $y$	2.50	5	7.5

7. Kate made \$20 last week and this week she knows she will make more than \$25. Which number line below shows all the possible amounts, in dollars, she will have at the end of next week?

CC.6.EE.8



8. The table shows Chilly's and Scooby's ages. Write an expression that represents Scooby's age in terms of Chilly's age. .

CC.6.EE.9

Chilly's Age ( $x$ )	Scooby's Age ( $y$ )
12	17
13	18
14	19

9. Which of the following situations is represented by the equation  $9c = 36$ ?

CC.6.EE.7

- A. Sue bought hats on sale for \$9 each. If she spent \$36 all together, how much did each hat cost?
- B. Kate has 9 dollars less than Ellen. If Kate is 36 inches, how much taller than Jana will she be?
- C. A hat costs \$36. During a sale, its price was reduced to \$9. By how much was the price of the hat reduced?
- D. Last week, Bob read for 36 minutes instead of just 9 minutes. How much more did he read?

10. The "All You Can Eat Buffet" is \$10 per person. Which equation could you use to find out how many people can eat for \$180?

CC.6.EE.9

- A.  $x + 10 = 180$       B.  $x - 10 = 180$       C.  $10x = 180$       D.  $180x = 10$

11. Use the information in the table to find the number of inches in 9 feet.

Feet	1	2	3	4	9
Inches	12	24	36	48	

CC.RP.3

12. Kay runs laps. Choose the numbers to complete the chart.

CC.RP.3

Number of Laps	2		6	8
Time (minutes)	6	12	18	

13. Based on the chart above, how long do you predict it will take Kay to run 10 laps?

CC.RP.3

14. Write an equation to represent the relationship between books and dollars.

(b) books	(d) dollars
1	5
2	10
3	15

CC.6.EE.9

15. Which of the following situations is represented by the equation  $x - 5 = 21$ ?

CC.6.EE.7

- A. Dot had 5 old cupcakes and 21 new cupcakes. How many did she have all together?
- B. Pam had 21 cupcakes until Tom ate 5 of them. How many cupcakes does Pam have now?
- C. Tom ate 5 cupcakes and now there are only 21 left. How many cupcakes were there before Tom ate some?

16. Write an equation that represents the information in the table.

x	1	2	3	4
y	7	14	21	28

CC.6.EE.9

17. Dora bought 5 explorer shirts for \$124.78. Write an equation you could use to find out how much one shirt costs.

CC.6.EE.7

18. Which of the following does NOT make the inequality true?  $x + 2 > 20$

- A.  $x = 18$       B.  $x = 19$       C.  $x = 20$

CC.6.EE.5

19. Determine the solution to:  $\frac{x}{3} = 9$ .

CC.6.EE.5

20. Determine the solution to this inequality true:  $4y > 24$

CC.6.EE.5

21. Find the solution for:  $y + 31 = 67$

CC.6.EE.5

26. Which of the following makes this inequality true?  $x + 8 < 21$

CC.6.EE.5

- A. 12      B. 13      C. 14

## Study Guide 6<sup>th</sup> Grade Math Unit 5 (GA7)

1. What integer represents 10 degrees below zero?

What integer represents 10 degrees above zero?

2. Choose which expressions are represented by +5 and which are represented by -5.

__ a gain of 5 yards	_ 5 degrees above zero	___ diving 5 feet under water
__ a loss of 5 pounds	driving 5 miles	__ flying 5 feet in the air

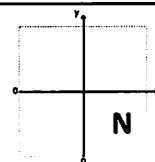
3. A pipe is located 45 feet below sea level. What integer represents the location of the pipe? -45

4. Which integer makes the following sentence true?  $-10 < ? < -1$

A. -16                      B. -22                      C. -8                      D. 9

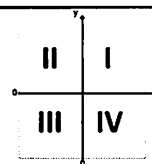
5. Which of the following coordinates might be the location of Point N?

A. (4,4)                      B. (-4,4)                      C. (-4,-4)                      D. (4,-4)



6. In which QUADRANT are each of the following points located?

(2,2) in Q\_\_\_                      (-2, -2) in Q\_\_\_                      (-2, 2) in Q\_\_\_                      (2,-2) in Q\_\_\_

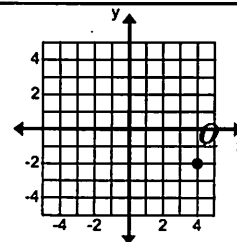


7. Which integer makes the sentence true?  $-10 < ? < 9$

A. 10                      B. 7                      C. -11                      D. -17

8. Put the decimals in order from least to greatest: 1.5, -1.5, 4.3, -4.5, 2.0, -2.0, 2.5, -2.5, 0.5, -0.5, 0

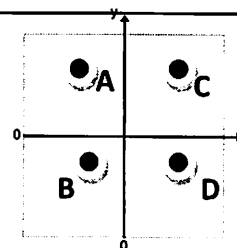
9. What are the coordinates of point Q after it is reflected over the y-axis?



10. What is the absolute value of 34?

11. If both coordinates of a point on the coordinate plane are negative, which of the points could it be?

If both coordinates of a point on the coordinate plane are positive, which of the points could it be?





12. True or False?

- Negative numbers are located to the right of 0 on a number line.
- Negative numbers are located to the left of 0 on a number line.
- The absolute value of a negative number is negative.
- The absolute value of a negative number is positive.
- Negative numbers are greater than positive numbers.
- Negative numbers are less than positive numbers.
- A negative number is less than its opposite.

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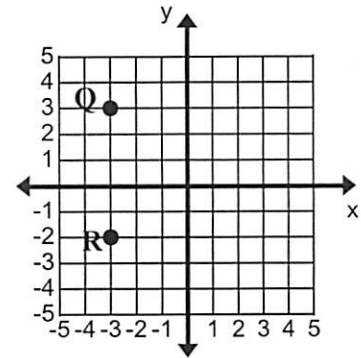
13. What number is the opposite of 56?

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14. In the graph, how far is it from Point Q to Point R?

15. Draw 2 more points on the graph to make a square with Q and R.

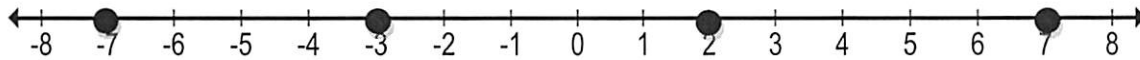
16. What is the perimeter of your new square?



17. What is the area of the square?

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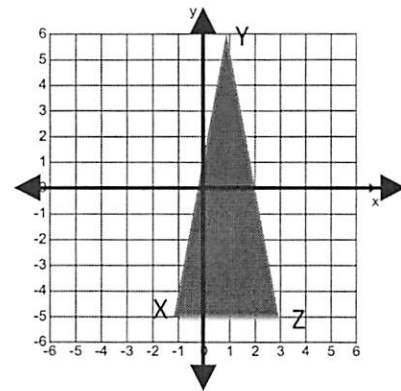
18. Baby Bo is growing fast. He gained 7 pounds. Which point on the number line below represents his gain?



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19. What are the coordinates of Point Y?

20. Find the distance between Point X and Point Z.



## Study Guide 6<sup>th</sup> Grade Unit 6 (GA5)

1. Which measurement do you need to find...

CC.6.G.2

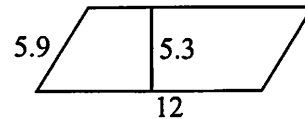
...how much paint will it take to paint the box? Volume or Surface Area?

...how much paint will it take to fill the paint tray? Volume or Surface Area?

...how much rice will fit in the box? Volume or Surface Area?

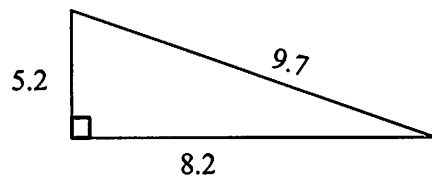
...how much leather will it take to cover the treasure box? Volume or Surface Area?

2. Find the area of the parallelogram.



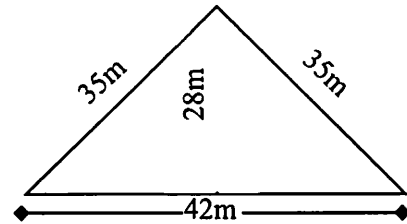
CC.6.G.1

3. Find the area.



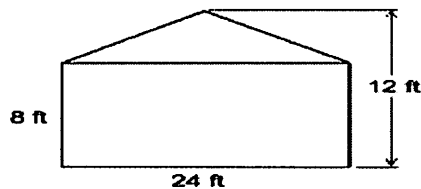
CC.6.G.1

4. Find the area of the *whole* figure.



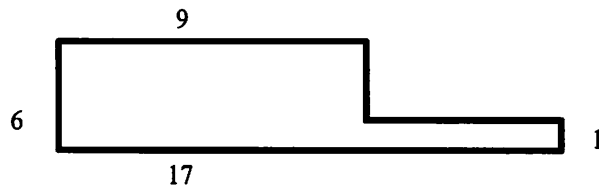
CC.6.G.1

5. Find the area of this 2-dimensional figure.



CC.6.G.1

6. Find the area of this figure.



CC.6.G.1

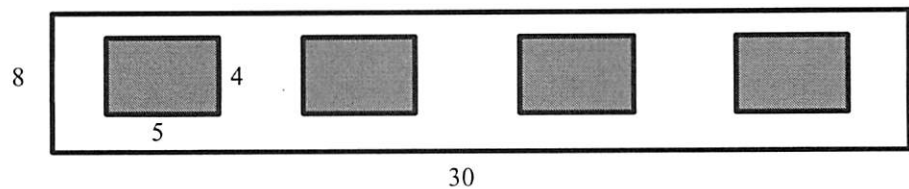
7. Draw a net for this figure.



CC.6.G.4

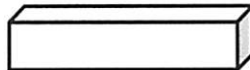
This wood needs to be painted. *Note: All cutouts are the same size.*

CC.6.G.1



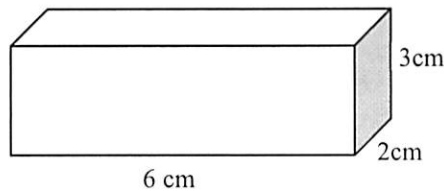
8. How many square feet need to be painted?
9. The paint costs \$4.25 per quart and will cover 25 square feet. How many quarts does Avery need?
10. How much will it cost to buy the paint?

11. Draw a net for this figure.



CC.6.G.4

12. Find the volume.



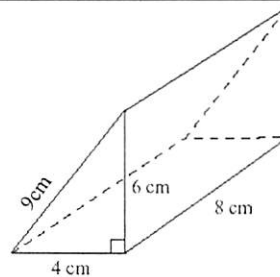
13. If the volume of a cube is 27 feet cubed, then what is the length of one side?

CC.6.G.2

14. Ted is hauling sand from the large pile to the new sandbox. Ted's wagon is 3.2 feet long, 2 feet wide, and 1.5 feet high. How many trips will Ted have to make before he has *at least* 35 cubic feet of sand for the sandbox?

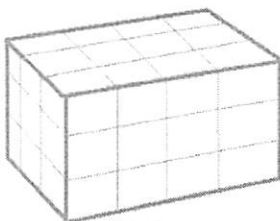
CC.6.G.2

15. Find the surface area of the prism.

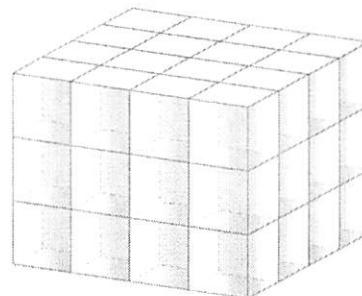


CC.6.G.4

16. Find the volume of the rectangular prisms.



Volume =



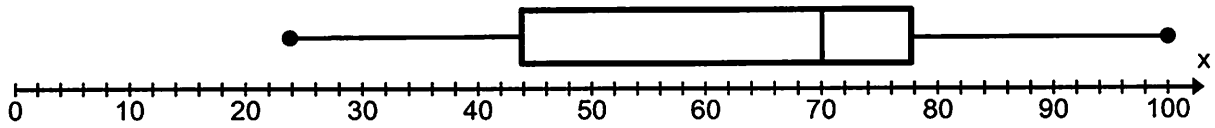
Volume =

6<sup>th</sup> Grade Unit 7 Study Guide

Name: \_\_\_\_\_

Block \_\_\_\_\_

Date \_\_\_\_\_



1. What is the median of the data?
2. What is the range of the data?
3. What is the interquartile range?
4. What percent are higher than 42?
5. What is the lowest number recorded?
6. What is the highest number recorded?

A shop records the number of running shoes sold each month.

7. What is the mean number of shoes sold?
8. What is the mode?
9. What is the median?
10. How many pairs of shoes were sold in the 5 months?

Running Shoe Sales	
Month	Number
January	75
February	68
March	75
April	92
May	105

**Are the following statistical questions?**

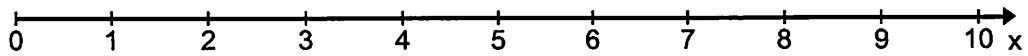
11. *Yes or No* How many years old do you have to be to vote?
12. *Yes or No* How many students in the school like country music?
13. *Yes or No* How many songs do you have downloaded on your i-pod?
14. *Yes or No* How many musicians are in Taylor Swift's band?
15. *Yes or No* How many students have been to a concert?
16. *Yes or No* What is the best age to learn to ride a bike?

Use the table to answer questions 17-21

How many Miles Did They Ride in March?

10th	12th	16th	17th	18th	21st	23rd	24th
6	7	6	4	4	2	4	7

17. Make a dot plot that represents the data in the table above.

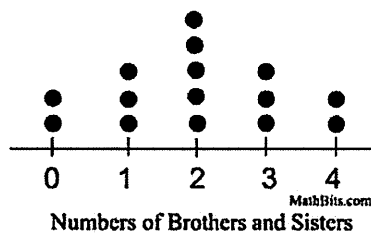


18. What is the mode of the bike-riding data?

19. What is the mean of the bike-riding data?

20. What is the median of the bike-riding data?

21. What is the range of the bike-riding data?



22. How many people were surveyed here?