Name:_____ Period:_____

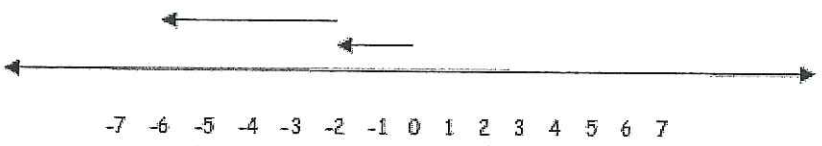
Answer Key

Homework:

6th Grade Math QCA 2 Review

1. Write an equation for each number line below. (6.3C)

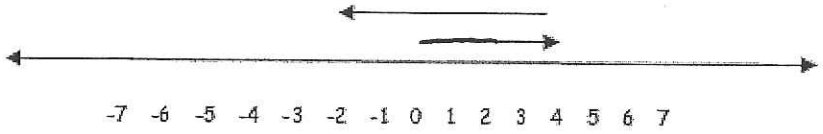
A.



-2 + -4 = -6

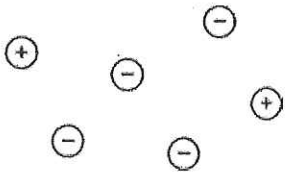
Equation: -2 + -4 = -6

B.

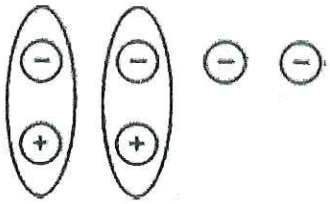


Equation: 4 + (-6) = -2

2. Jason used these number counters to add positive and negative integers.



This shows how he paired his counters to solve an integer problem.



Give an expression that represents the problem Jason was trying to solve. (6.3C)

Expression: 2 + (-4) = -2

or

-4 + 2 = -2

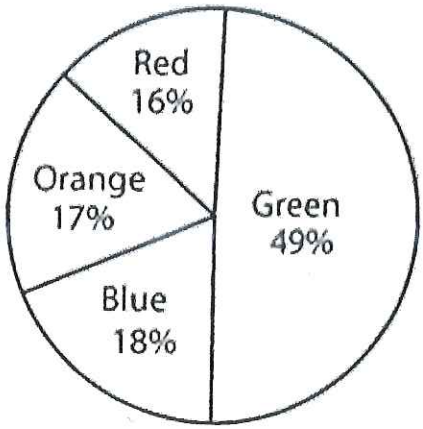
3. The table below shows a list of candidates and how many votes they received. (6.5B)

Candidate	Vote
Shontel	50
Davina	250
Wayne	100

Who received 25% of the votes? Wayne $\frac{100}{400 \text{ total}} = 25\%$

Who received 12.5% of the votes? Shontel $\frac{50}{400} = 12.5\%$

4. A survey of 200 students was taken to vote on a school color. (6.5B)
The circle graph below shows the results of the survey.



How many students voted for Green?

49% of 200 = .49 x 200 = 98

How many students voted for Red?

16% of 200 = .16 x 200 = 32

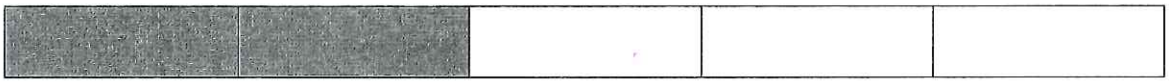
5. Sheila bought a box of 25 headbands. When she arranged the headbands by color, she saw that 4 were green, 4 were red, 13 were blue, and 4 were pink. (6.5B)

What is the percent of blue headbands she bought?

$\frac{13 \text{ blue}}{25 \text{ total headbands}} \xrightarrow{\times 4} \frac{52}{100} = 52\%$

$\times 4$

6. The rectangle below is divided up into equal parts.



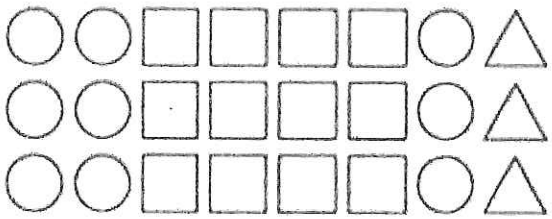
What percent of the rectangle is **NOT** shaded? (6.4E)

$\frac{3}{5} \xrightarrow{\times 20} \frac{60}{100} = 60\%$

$\times 20$

How do you know? (Give 2-3 sentences)

7.



What percent of the shapes are circles? (6.4E)

$\frac{9}{24} = .375 = 37.5\%$

What percent of the shapes are triangles?

$\frac{3}{24} = .125 = 12.5\%$

$$\begin{array}{r} .375 \\ 24\overline{)9.000} \\ -72 \\ \hline 180 \\ 168 \\ \hline 120 \\ 120 \\ \hline 0 \end{array} \qquad \begin{array}{r} .125 \\ 24\overline{)3.000} \\ -24 \\ \hline 60 \\ 48 \\ \hline 120 \\ 120 \\ \hline 0 \end{array}$$

If you know what percentage of the shapes are triangles and what percentage are circles, can you figure out what percentage squares should be? Explain your answer.

37.5% + 12.5% + percent for the □ = 100%

So, 100% − 12.5% − 37.5% = the percent for □

8. Matt's batting average as a decimal is .5. Sarah's batting average as a percent is 9%.

Who has the better batting average? (6.4G)

Matt: .5 = 50% Sarah: 9% = .09

Explain your answer.

Matt because 50% is greater than 9% and .5 is greater than .09

9. It was Patrick's twelfth birthday and he ate 56% of his cake. (6.4G)

Represent the portion of the cake Patrick ate as a

Fraction: $\frac{56}{100} = \frac{14}{25}$

Decimal: .56

10. Suzanne spends $11 a week on lunches, $6 a week on snacks, and $3 a week on Gatorades. What percent of her money is she spending on snacks? (6.4G)

$$\begin{array}{r} 1 \\ 11 \\ +\ 6 \\ \hline 3 \\ \hline \$20 \text{ total} \end{array}$$

$$\frac{6 \text{ snacks}}{20 \text{ total}} \xrightarrow{\times 5} \frac{30}{100} = 30\%$$

11. How many ~~inches~~ are in 90 ~~feet~~? Write your answer as both a fraction and a decimal.

This question is supposed to say how many feet are in 90 inches?

$$\begin{array}{r} 90 \\ \times\ 12 \\ \hline 180 \\ 900 \\ \hline 1080 \end{array}$$

$$\begin{array}{r} 7.5 \\ 12\overline{)90.00} \\ 84 \\ \hline 60 \\ 60 \\ \hline 0 \end{array}$$

7.5 decimal answer

$7\frac{5}{10}$ or $7\frac{1}{2}$ fraction answer

12. Caleb wants to fill up his water bottle with 8 pints of water but only has a 1 cup measuring cup to use. How many cups of water will fit in his water bottle?

1 pint = 2 cups

8 pints = 16 cups

13. Which of these is NOT another way to write (3)(-8)

a. (-8) + (-8) + (-8)

b. -8 -8 -8

c. (-8) – (-8) – (-8)

14. Brady is the star football player on his team. In the first quarter, he runs for 14 yards, then loses 12 yards. He then loses 8 more yards. He finally runs 42 yards to score a touchdown! Write a number sentence that matches Brady's first quarter plays.

$+14 + (-12) + (-8) + 42 =$

15. 4 math students are trying to solve this problem:
It takes 6 minutes to type 180 words. How many words can you type in 10 minutes?

Circle the proportion that is **NOT** correct.

$\frac{6}{180} = \frac{10}{\_\_}$ $\quad \frac{6}{10} = \frac{180}{\_\_}$ $\quad \frac{\_\_}{6} = \frac{10}{180}$ $\quad \frac{\_\_}{10} = \frac{180}{6}$

16. Blake and Maddy are both in Running Club. Blake can run 4 miles in 36 minutes and Maddy can run 6 miles in 50 minutes. Do they run at the same pace? How do you know?

Blake

miles/min: $\frac{4}{36} \div 4 = \frac{1 \text{ mile}}{n \text{ minutes}}$ ÷4

$n = 9$ minutes

Maddy

$\frac{6}{50} \div 6 = \frac{1 \text{ mile}}{n \text{ minutes}}$ ÷6

$n = 8\frac{1}{3}$ minutes

8.33
$6\overline{)50.00}$
-48
20
18
20
-18
2

They do not run at the same pace. She runs faster.

17. The ratio of girls to boys in math class is 8:6. If there are 200 boys in 6th grade, how many girls are there?

$\frac{G}{B} \quad \frac{8}{5} \quad \frac{x}{200}$

$\frac{1600}{5} = \frac{5x}{5}$

$320 = x$

18. Describe what scale factor is in your own words. Give an example of where you might see scale factor.

Scale factor is using a proportion to make a smaller or larger version of something's actual size

19. An architect creates a blueprint of a new building. The scale is 1 inch = 20 feet. Suppose the width of the building is 16.5 inches on the blueprint. How wide is the actual building?

Year	Height in Feet
1	7
2	8
3	9
4	10

+6
+6

$\frac{in}{ft}$ $\frac{1}{20} = \frac{16.5}{x}$

$20(16.5) = 1(x)$

$330 = x$

height

year + 6 = height

10 + 6 = 16

20

20. A tree grows a certain amount each year. Use the table to create an equation that would find the height of the tree for any number of years.

height = year + 6

H = y + 6

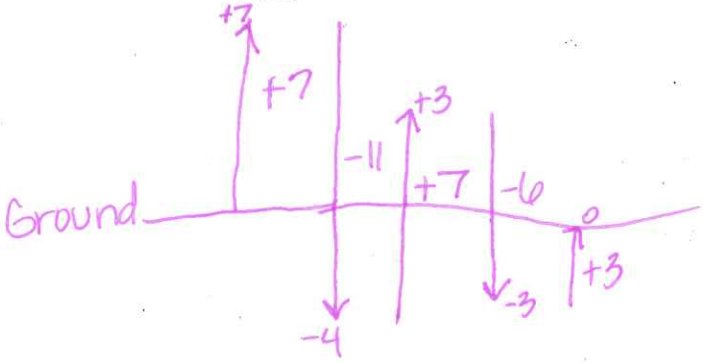
21. Mr. Moneybags earns a certain amount of money each week. Use the table to create an equation that would find how much money he earns for any number of weeks.

Week	Money Earned
1	$50
2	$100
3	$150
4	$200

money earned = week (50)

M = 50(w)

22. An elevator started at the ground floor (floor #1). It went up 7 floors, back down 11 floors, up 7 floors, down 6 floors, and finally up 3 floors. Did the elevator end up above or below ground? Which level did it end on?



at ground level. It ended at 0.

23. Freddy the Frog can jump 3 yards and Gary the Grasshopper can jump 20 inches. How many more inches can Freddy jump than Gary?

1 yard = 3 feet 1 foot = 12 inches

Freddy

3 yards = 9 feet

×3

9 feet = 108 inches

×12

×108
− 20
88 inches more