

Englewood Public School District



ALGEBRA 1



Name _____

Note to Student:

- . Show all work in the packet.**
- . You may not use a calculator.**
- . Use the QR codes to watch a video tutorial on the topic.**
- . This assignment will be graded.**

Unit Rates

Express each phrase as a unit rate. Round your answer to the nearest hundredth if necessary. Show all work.

Phrase	Unit Rate
1. 15 dollars for 9 books	
2. 6 pencils for 16 dollars	
3. Mowed 6 yards for \$45	
4. 8 inches of snow in 7 hours	
5. 7 movie tickets cost \$35	

Work Space:



Literal Equations

Rearrange the following equations for the variable stated:

1. $C = \pi d$ for d

2. $P = 2l + 2w$ for w

3. $x = \frac{y}{z}$ for z

4. $a = b + cd$ for c

5. $s = \frac{(u+v)t}{2}$ for u



Write each as an algebraic expression.

1) z less than 26

2) the difference of 20 and 7



3) y increased by 7

4) the product of n and 6

5) 5 cubed

6) the 2nd power of 8

7) the n power of 3

8) the sum of y and 11

Evaluate each expression. Show all work.

9) $5 + 5 - (5)(-2)$

10) $5 + 2 + (-4)^2$

11) $(-7 - 5) \div (-2 - 1)$

12) $(9 \div -3)(-6) - -5$



Evaluate each using the values given. Show all work.

13) $b + a - 3a$; use $a = 3$, and $b = -2$

14) $\frac{y - x^2}{3}$; use $x = -2$, and $y = 1$



15) $3 + zy - z$; use $y = -2$, and $z = 5$

16) $(j - h)^2 + 5$; use $h = 1$, and $j = -6$

Evaluate each expression. Show all work.

17) $2.1 - 3.4$

18) $(-9.05) + (-11.1)$



19) $2.185 + (-3.4)$

20) $\left(-3\frac{5}{8}\right) - \left(-2\frac{4}{5}\right)$



Find each product. Show all work.

21) $-2.2 \cdot -4.6$

22) $\frac{4}{3} \cdot -\frac{1}{8}$



Find each quotient. Show all work.

23) $2.8 \div -1.5$

24) $1\frac{1}{6} \div -2$



25) $\frac{-2}{7} \div \frac{-4}{5}$



Solve each equation. Show all work.

26) $\frac{n}{20} = -\frac{3}{4}$

27) $-2r = -12$



28) $1 = 12 + k$

29) $-7 = n - 13$

30) $-\frac{4}{3}x = -\frac{8}{9}$

31) $-16.9 = v + (-4.5)$

32) $18.3 - m = 13$

33) $-1 = \frac{n + 5}{10}$

34) $-5 + \frac{n}{2} = -9$

35) $-5 = \frac{k - 9}{2}$

$$36) 2 = -1 + \frac{a}{6}$$

$$37) 1 = \frac{r-9}{-27}$$

$$38) \frac{x}{5} + 4 = 0$$

$$39) 7 = \frac{p-3}{2}$$

$$40) 11 = 3v + 8$$

$$41) 6(x-7) + 5x = -75$$



$$42) -145 = -5(1 + 4n)$$

$$43) -73 = 2n - 7(1 + 5n)$$

44) $-4(1 + 7m) + m = 104$

45) $7x - (1 - 5x) = 71$

Solve each proportion. Show all work.

46) $\frac{n}{7} = \frac{7}{5}$

47) $\frac{3}{4.2} = \frac{n}{9.6}$



Answer each question and round your answer to the nearest whole number. Show all work.

48) A map has a scale of 1 cm : 11 km. If Santa Cruz and Rockville are 88 km apart, then they are how far apart on the map?

49) A lawn ornament that is 6 ft tall casts a shadow that is 4 ft long. Find the length of the shadow that a 15 ft adult giraffe casts.



Solve each problem. Show all work.

50) What is 380% of 112?

51) 210% of what is 105?



52) 14% of 147 is what?

53) What percent of 43 is 26?

Find each percent change. Round to the nearest tenth of a percent. State if it is an increase or decrease. Show all work.



54) From 77 to 45

55) From 47 to 93

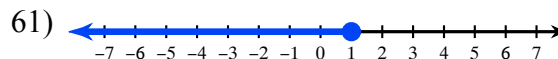
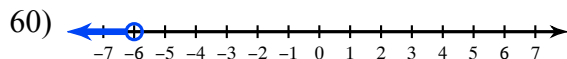
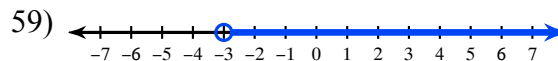
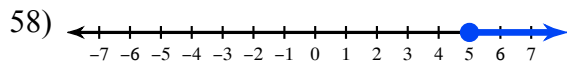
Find the selling price of each item. Show all work.

56) Original price of a shirt: \$14.50
Discount: 30%

57) Cost of pants: \$76.95
Markup: 18%

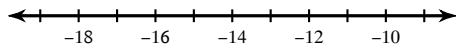


Write an inequality for each graph.

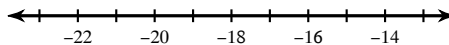


Solve each inequality and graph its solution. Show all work.

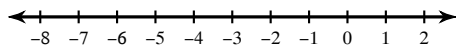
62) $-96 < 6b$



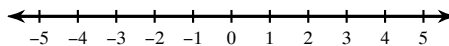
63) $n + 7 > -11$



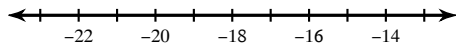
64) $0 > -14b$



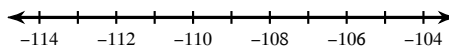
65) $n + 8 \geq 5$



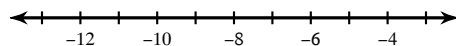
66) $5 \geq -13 - n$



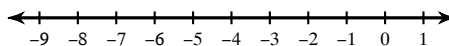
67) $-11 < \frac{n}{10}$



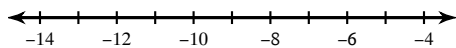
68) $24 \leq -3x$



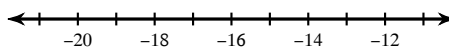
69) $-10 \leq n + (-8)$



$$70) -\frac{3}{4} \geq \frac{a}{16}$$

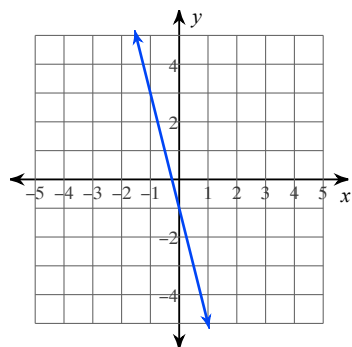


$$71) -18 \leq x + (-1)$$

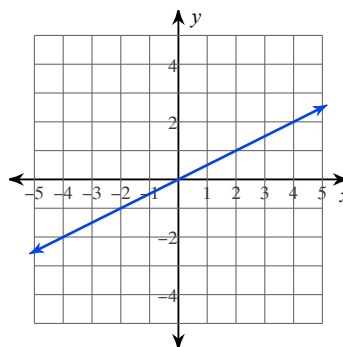


Write the slope-intercept form of the equation of each line.

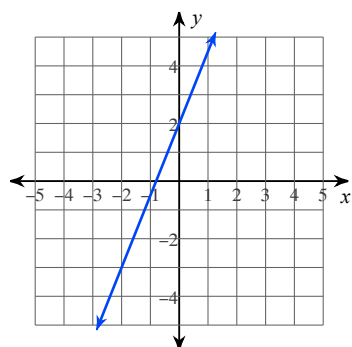
72)



73)



74)



75)

