



Cedar Grove High School Mathematics Department

Summer Skills Packet

Accelerated Math 8

For each section make sure to show your work and explanations completely.

Section 1: Expressions

1. Simplify the following expressions:

a. $-10 + 4$

b. $2 - \frac{1}{2}(4)$

c. $(15 - 3) / 2(3)$

d. $-6(x-4) + 3x$

e. $\frac{3}{4}(y + 8)$

f. $-5x + 4 - x$

2. Find the value of the expressions below if $a = -2$ and $b = 3$

a. $3a + 4$

b. $a - 2b$

c. $-4b/a$

3. Write an algebraic expression to represent each of the following situations.

- a. Peter's age is five more than triple Ryan's age. How old is Peter?

$$\text{Ryan} = x$$

- b. Karen has two dollars less than half the amount of money that Jose has in his bank account. How much money does Karen have?

$$\text{Jose} = x$$

- c. Gordon, Stephanie, and Rachel evenly split the cost of a whole pizza. How much does each person pay?

4. Determine which situation below can be represented by the expression : $3x - 6$

- a. Jeff has six pencils less than a third of the amount of pencils Rob has.
b. Jeff has six pencils more than triple the amount of pencils Rob has.
c. Jeff has six pencils less than triple the amount of pencils Rob has.
d. Jeff has six pencils more than a third of the amount of pencils Rob has.

Section 2: Properties

5. Rewrite the following expressions to illustrate the Commutative Property

a. $2x + 4$

b. $(-3)(5)$

c. $3x + 4y - 2z$

6. Rewrite the following expressions to illustrate the Distributive Property

a. $10(y - 4)$

b. $-3(4 - x)$

c. $2(5z + 9)$

7. Using the distributive property, write two equivalent expressions to represent the area of the figure.



Section 3: Equations

8. Solve the following equations:

a. $-21 = 3x + 6$

b. $\frac{1}{2}y - 5 = 1$

c. $3m = m$

d. $-2(3b + 4) = 10$

e. $12n - 1 - 4n = -17$

f. $-7w - 2 = -16$

Section 4: Proportions

9. Use proportional reasoning to solve each of the following questions.

- Jackie McSpeedy can run 5 miles in 30 minutes. How far can Jackie run in two hours?
- Mr. Smith can type 3 pages in 15 minutes. How many pages can he type in 45 minutes?
- Chad went to the mall and bought a shirt that was originally \$40, but was on sale for 25% off. How much did Chad pay for his shirt?
- Sarah got 32 questions correct on an exam that had 50 questions. What percent did Sarah get correct on her exam?

Section 5: Graphing

10. Plot the following points on the coordinate plane below. Label your points.

Point A (-4, 5)

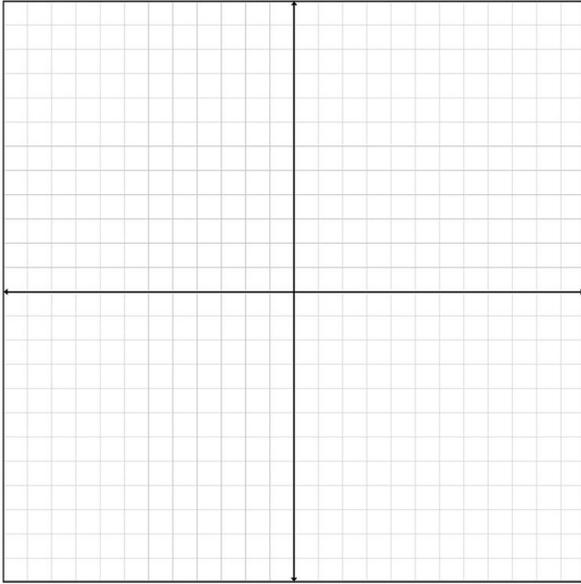
Point B (6, -2)

Point C (-2, -3)

Point D (5, 8)

Point E (0, 4)

Point F (-2, 0)



11. Graph the following equations on a coordinate plane. Complete the table for each equation using the given x- values.

a. $y = x$

b. $y = \frac{2}{3}x$

c. $y = -x$

x	y
-2	
-1	
0	
1	
2	
3	

12. Graph the linear equations on a coordinate plane using slope-intercept form.

a. $y = \frac{-3}{4}x + 2$

b. $2x - 4y = 8$

c. $y = 3$

d. $x = -2$