

Practice Test 2 - Alg 1

Give Strategy for each concept Name: Key Period: \_\_\_\_\_

Directions: Show all your work on all of these and the formulas below need to be memorized before test day.

Equation for Slope:  $m = \frac{y_2 - y_1}{x_2 - x_1}$  Slope-intercept form:  $y = mx + b$  Standard form:  $Ax + By = C$

1. Solve for x:

$$\frac{6}{4} = \frac{x}{18}$$

$$4x = \frac{6 \cdot 18}{4}$$

$$x = 27$$

2. Solve for m

$$\frac{m-2}{4} = \frac{5}{20}$$

$$m = 3$$

$$20(m-2) = 20$$

$$20m - 40 = 20$$

$$+40 \quad +40$$

$$\frac{20m = 60}{20 \quad 20}$$

3. Determine if these are equivalent ratios. S

$$\frac{5}{7} \quad \frac{20}{28}$$

$$5 \cdot 28 = 140$$

$$7 \cdot 20 = 140$$

YES

4. Solve for x:

$$nx - r = p$$

$$+r \quad +r$$

$$\frac{nx}{n} = \frac{p+r}{n}$$

$$x = \frac{p+r}{n} = \frac{p}{n} + \frac{r}{n}$$

5. Solve for b:

$$\frac{x-b}{a} = c$$

$$b = -ca + x$$

$$x - b = ca$$

$$-x \quad -x$$

$$\frac{-b = ca - x}{-1 \quad -1}$$

6. Write in Standard Form:

$$y = 2x - 1$$

$$-2x + y = -1$$

$$2x - y = 1$$

7. Write in Slope-Intercept Form:

$$3x - y = 3$$

$$-3 + y - 3 + y$$

$$3x - 3 = y$$

$$y = 3x - 3$$

8. Write in Standard Form:

$$y - \frac{1}{4}x = 2$$

$$-4 \left( -\frac{1}{4}x + y \right) = -4(2)$$

$$1x - 4y = -8$$

9. Write in Slope-Intercept Form:

$$2x - 3y = 12$$

$$-2x \quad -2x$$

$$-3y = -2x + 12$$

$$\frac{-3y}{-3} = \frac{-2x + 12}{-3}$$

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

10. Which value of r gives the line passing through (3, 2) and (r, -4) a slope of  $\frac{3}{2}$ ?

$$\frac{-4-2}{r-3} = \frac{3}{2}$$

$$\frac{-6}{r-3} = \frac{3}{2}$$

$$r = -1$$

$$-6(2) = 3(r-3)$$

$$-12 = 3r - 9$$

$$+9 \quad +9$$

$$\frac{-3}{3} = \frac{3r}{3}$$

$$-1 = r$$

11. What is the slope of the line through (-4, -6) and (9, -6)?

$$\frac{-6-6}{9-(-4)} = \frac{0}{13}$$

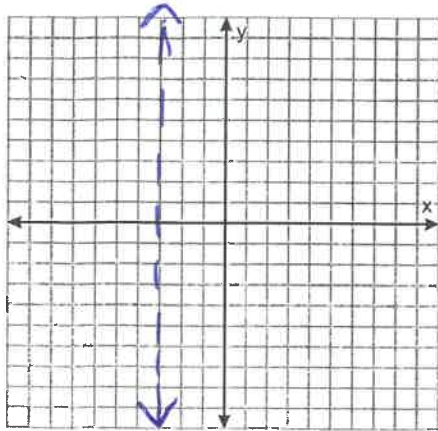
$$m = 0$$

12. What is the slope of the line through (2, -8) and (4, 1)?

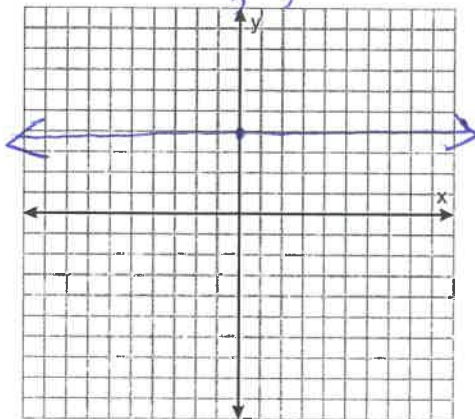
$$m = \frac{1-(-8)}{4-2} = \frac{9}{2}$$

$$m = \frac{9}{2} = 4\frac{1}{2} = 4.5$$

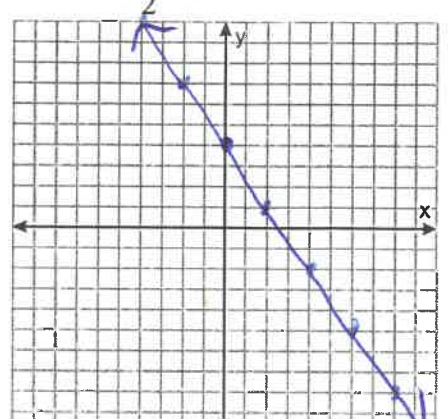
13. Graph  $x = -3$



14. Graph  $3y = 12$   $y = 4$

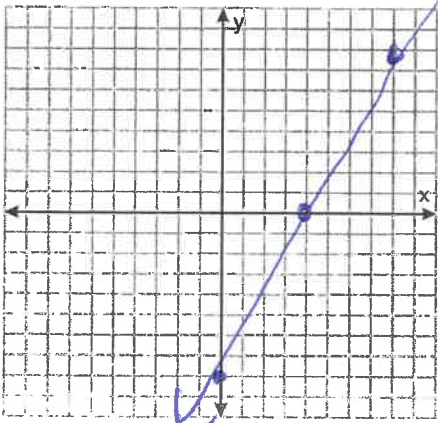


15.  $y = -\frac{3}{2}x + 4$



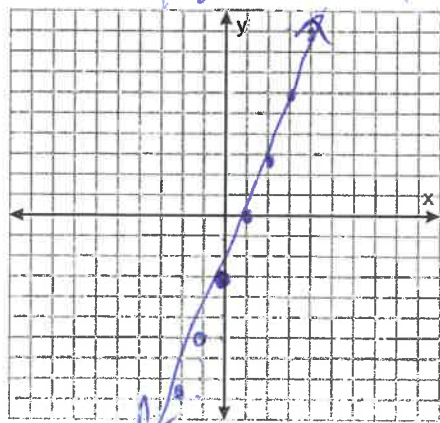
16. Graph  $4x - 2y = 16$

x	y
2	-8
4	0



17. Graph  $3x - y = 3$

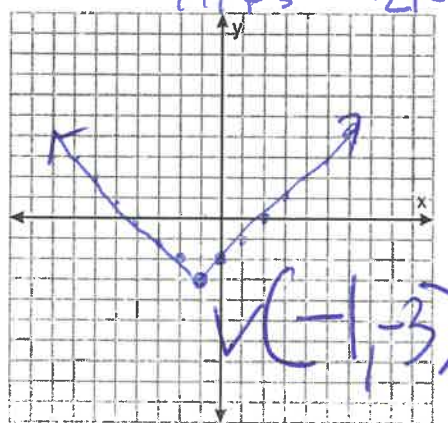
$$\begin{aligned} -3x & -3x \\ -y & = -3x + 3 \\ y & = 3x - 3 \end{aligned}$$



18. Graph  $f(x) = |x + 1| - 3$

x	y
0	-2
-1	-3
-2	-2

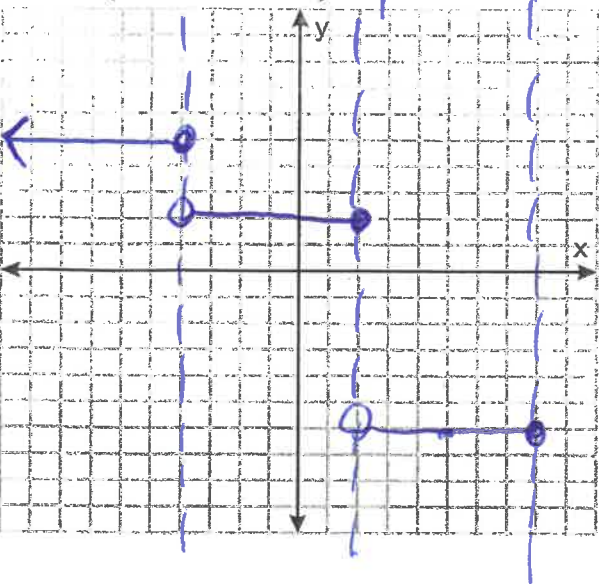
$f(0) = |0+1| - 3$   
 $f(-2) = |-2+1| - 3$



19.

$$f(x) = \begin{cases} 5, & \text{if } x \leq -4 \\ 2, & \text{if } -4 < x \leq 2 \\ -6, & \text{if } 2 < x \leq 8 \end{cases}$$

$y = 5$   
 $y = 2$   
 $y = -6$



20.

$$f(x) = \begin{cases} -\frac{1}{3}x + 4, & \text{if } x \leq 3 \\ x - 6, & \text{if } x > 3 \end{cases}$$

