Mastery Algebra 1 Review Wksht #1 Chp 4-5 Test **Show all work** Name KEY

1. Put in slope-intercept form.

$y - 2 = -6(x - 3)$

$y - 2 = -6x + 18$

$+2 \quad +2$

$y = -6x + 20$

Answer: $y = -6x + 20$

2. **Find the slope and y-intercept.**

$5x - y = 2$

$-5x \quad -5x$

$-y = -5x + 2$

$-1 \quad -1 \quad -1$

$y = 5x - 2$

Answer: m= 5 b= -2

3. **Write the equation of the line parallel to $3x - y = 1$ passing through (-15, -6).**

$3x - y = 1$

$-y = -3x + 1$

$-1 \quad -1 \quad -1$

$y = 3x - 1$

$m = 3$

$-6 = 3(-15) + b$

$-6 = -45 + b$

$39 = b$

Answer: $y = 3x + 39$

4. **Write the equation of the line with $m = -2$ passing through (4, - 9).**

$-9 = -2(4) + b$

$-9 = -8 + b$

$+8 \quad +8$

$-1 = b$

$y = -2x - 1$

Answer:

5. **Write the equation of the line passing through** (-2, 5), (-2, 8)

$m = \frac{8-5}{-2+2} = \frac{3}{0}$ undefined

$x = -2$

Answer:

6. **Write the equation of the line with slope= 0 passing through** (4,7).

$y = 0x + b$

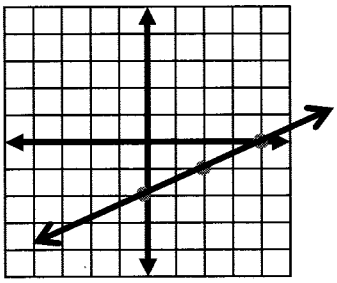
$7 = 0(4) + b$

$7 = b$

$y = 0x + 7$

Answer:

7. **Write the equation of the line graphed below:**



Answer: $y = \frac{1}{2}x - 2$

8. **Graph by the intercepts.**

$4x + 3y = -12$

Work for x-intercept:

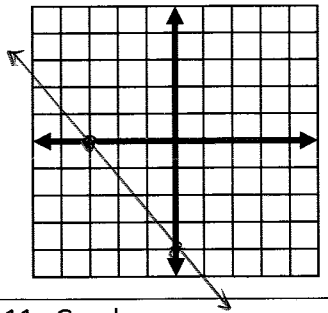
$y = 0 \quad \frac{4x}{4} = \frac{-12}{4}$

$(-3, 0) \quad x = -3$

Work for y-intercept:

$x = 0 \quad \frac{3y}{3} = \frac{-12}{3}$

$(0, -4) \quad y = -4$



9. **Each pair of points lies on the same line. Find x.**

(x, -7), (2,17); slope = $-\frac{8}{3}$

$m = \frac{17-(-7)}{2-x} = -\frac{8}{3}$

$\frac{24}{2-x} = \frac{-8}{3}$

$-8(2-x) = 72$

$-16 + 8x = 72$

$8x = 88$

$x = 11$

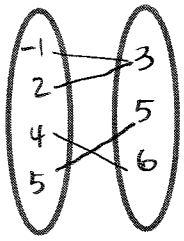
10.

11. Graph

12. Graph

$\{(-1,3)(2,3)(4,6)(5,5)\}$

Draw a mapping:



State the domain and range.

Domain: $\{-1,2,4,5\}$

Range: $\{3,5,6\}$

Is this a function? Explain.

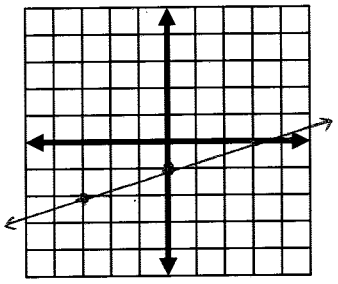
Yes, For every X there is only 1 y.

$x - 3y = 3$

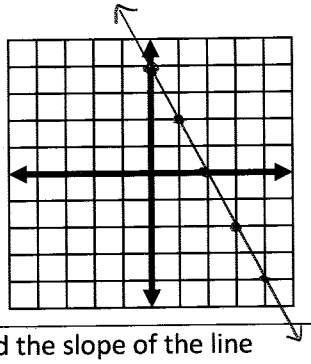
$-x \quad -x$

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

$y = \frac{1}{3}x - 1$



$y = -2x + 4$



13. Write the equation of the line perpendicular to $y = -7x + 3$ passing through (14,7). $m_{\perp} = \frac{1}{7}$

$7 = \frac{1}{7}(14) + b$

$7 = 2 + b$

$-2 \quad -2$

$5 = b$

Answer: $y = \frac{1}{7}x + 5$

14. If a line has an undefined slope, what does the graph look like?

Vertical Line

15. Find the slope of the line passing through (-1,9) and (4,-7).

$m = \frac{-7-9}{4-(-1)} = \frac{-16}{5}$

Answer: $m = -\frac{16}{5}$

16. Graph the following function.

x	$f(x) = x^2 - 2x - 3$	f(x)
-2	$(-2)^2 - 2(-2) - 3$	5
-1	$(-1)^2 - 2(-1) - 3$	0
0	$(0)^2 - 2(0) - 3$	-3
1	$(1)^2 - 2(1) - 3$	-4
2	$(2)^2 - 2(2) - 3$	-3
3	$(3)^2 - 2(3) - 3$	0

9 - 6 - 3