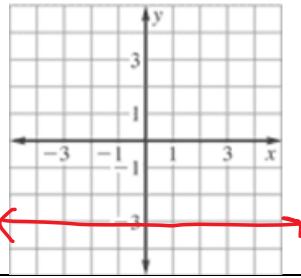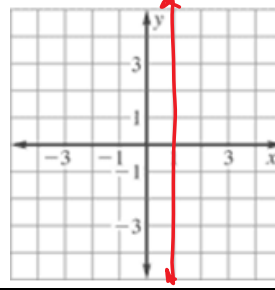Name:_____ Per:_____

Honors I – Chapters 3 & 4 PRACTICE Test   **SHOW ALL YOUR WORK**

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1. Graph $y = -3$ and state its slope: ___$m=0$___

2. Graph x = 1 and state its slope: ___undefined___

Find the slope of the line passing through the points.

3. $(2, 9)$ *and* $(6, 15)$

$m = \dfrac{15-9}{6\cdot2} = \dfrac{6}{4} = \boxed{\dfrac{3}{2}}$

4. $f(-1) = 4.5$ *and* $f(-4) = -14.75$

$\dfrac{-14.75-4.5}{-4-(-1)} = \boxed{6.41\overline{6}}$

5. $\left(-2, \dfrac{9}{4}\right)$ *and* $\left(1, \dfrac{15}{2}\right)$

$\dfrac{\frac{15}{2}-\frac{9}{4}}{1-(-2)} = \dfrac{5.25}{3} = \boxed{1.75}$

Graph each equation.

6. $6x - 3y = -15$

Use intercepts

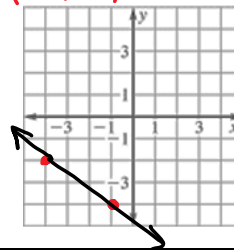| x	y
0	5
-2.5	0
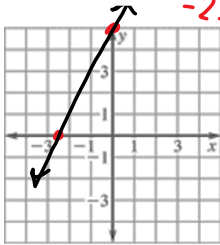
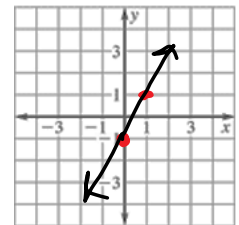**7.** $y + 1 = -\dfrac{1}{3}x$

$Y = -\dfrac{1}{3}x - 1$
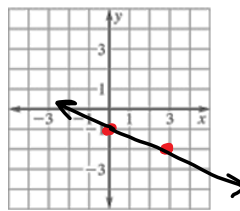
8. $y + 2 = -\dfrac{2}{3}(x + 4)$

$Y = -2 - \dfrac{2}{3}(x-(-4))$

pt : (-4,-2) $m = -\dfrac{2}{3}$

9. $y = 2x - 1$

---

10. Write the equation (in some point-slope form) for the equation of the line that goes through the point (-4, 2) with a slope of 1.5.

$Y = 2 + 1.5(x-(-4))$

$\boxed{Y = 2 + 1.5(x+4)}$

11. Write the equation, in slope-intercept form, for the equation of the line that goes through the points (5,0) and (3,7).

$m = \dfrac{7-0}{3-5} = -\dfrac{7}{2}$

$Y = 0 - \dfrac{7}{2}(x-5)$

$\boxed{Y = -\dfrac{7}{2}x + 17.5}$

---

12. Find the value of *k* so that the line passing through the two points has the given slope.

$(3k, 2), (5, 6),$ $m = \dfrac{2}{7}$

$\dfrac{6-2}{5-3k} = \dfrac{4}{5-3k} = \dfrac{2}{7}$

(×2)

So $5 - 3k = 14$

k = __-3__

13. Find the value of A and B so the line goes through the point (-5,0) and (0,2).

$-5A = 20$ Ax + By = 20 $B(2) = 20$

A = __-4__   and   B = __10__

14. Find the equation for the line that is parallel to $y = \frac{1}{3}x + 4$ and goes through the point (1, -2).

$$y = -2 + \frac{1}{3}(x-1)$$

or

$$y = \frac{1}{3}x - \frac{7}{3}$$

15. Find the equation for the line that is perpendicular to $y = \frac{1}{3}x + 4$ and goes through the point (1, -2).

$$y = -2 - 3(x-1)$$

or

$$\boxed{y = -3x + 1}$$

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16. The cost for a large sno cone at the fair is $4 and the cost for a small sno cone is $2. Let x = number of large cones and y = number of small cones. Write an equation relating the money spent on large and small cones if one has $20 to spend.
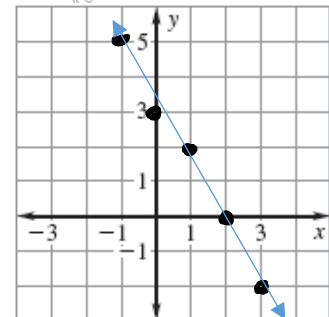
Equation: __$4x + 2y = 20$__

Now, name three different combinations of small and large cones that can be purchased.

Combination 1: (0 , 10) others exist
Combination 2: (5 , 0)
Combination 3: (1 , 8)

For the problems below, use the table and graph shown to the right.

x	−1	0	1	2	3
y	5	3	2	0	−2

17. Plot the points, draw in a line of best fit and find an equation for **your** line of best fit.

$$(-1, 5) \text{ & } (2, 0) \qquad m = \frac{0-5}{2-(-1)} = \frac{-5}{3}$$

$$\boxed{y = 0 - \frac{5}{3}(x-2)}$$

Equation: $\boxed{y = \frac{-5}{3}x + \frac{10}{3}}$

18. Use your equation to estimate the value of y when x is 20.

$$y = \frac{-5}{3}(20) + \frac{10}{3} = \frac{-100}{3} + \frac{10}{3} = \frac{-90}{3} = \boxed{-30}$$

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19. Describe whether each graph should produce a positive, negative or no correlation when plotted.

a) Graph comparing years of education and entry salary.

positive

b) Graph comparing elevation and oxygen levels.

negative

c) Graph comparing height and GPA.

No correlation

20. The function C(x) = 4 + 1.25x represents the cost for downloading x songs.

Find and interpret each (in real-life terms) below.

$C(5) = 10.25$, 5 songs cost $10.25

$C^{-1}(x) = \frac{x-4}{1.25}$ → # songs you can buy with x dollars

$C^{-1}(14) = 8$, $14 will get you 8 songs