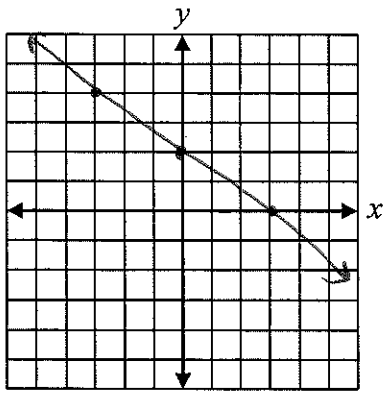
Name: Key Algebra 1 Review - Old 2.4 Review Sheet

9/15

1. Given the equation $y = -\frac{2}{3}x + 2$, identify the slope and y-intercept. Then, graph the line (please label the scale).

Slope: $\frac{-2}{3}$ y-intercept: 2



2. Find the x and y intercept for the equation $3x - 6y = 12$. Then, graph the line (please label the scale).

x-intercept: (4,0) y-intercept: (0,-2)

x

$3x - 6(0) = 12$

$x = 4$

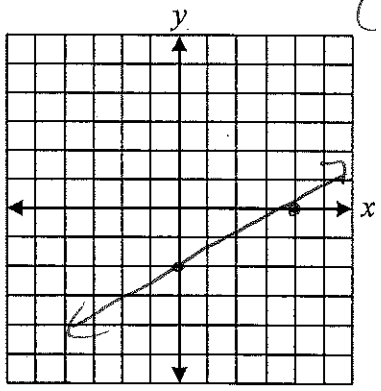
(4,0)

y

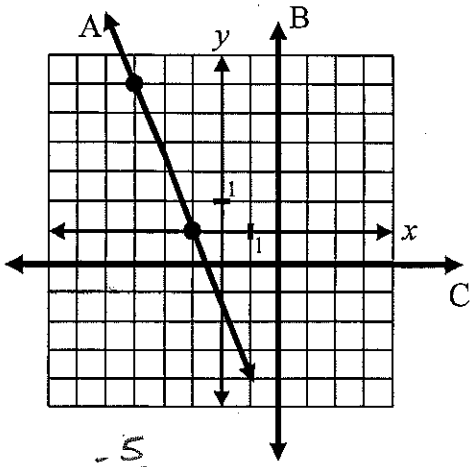
$3(0) - 6y = 12$

$y = -2$

(0, -2)



3. Find the slope of the following lines:



Line A: $\frac{-5}{2}$

Line B: undef

Line C: 0

4. Determine whether the lines are parallel, perpendicular, or neither. SHOW WORK:

Line 1: through (4,-3) and (-8,1)

Line 2: through (11, 8) and (20, 5)

$m_1 = \frac{1 - -3}{-8 - 4} \quad \frac{4}{-12} \quad -\frac{1}{3}$

$m_2 = \frac{5 - 8}{20 - 11} = \frac{-3}{9} = -\frac{1}{3}$

Circle One: (Parallel) Perpendicular

Neither

5. In 1995, the birth rate at Burke Hospital was 1310 births. In 2002, the birth rate at the same hospital was 1670. Find the average rate of change of the birth rate at Burke Hospital. Round to the nearest tenth. Include units in your answer.

(1995, 1310)

(2002, 1670)

$\frac{360}{7} = 51.4$ births/yr

6. Write an equation of the line that passes through the point $(-2, 7)$ and is parallel to the line $y = 3$. $m = 0$

$y - 7 = 0(x - -2)$

$y - 7 = 0(x + 2)$

$y - 7 = 0$

$y = 7$

7. Write an equation of a line that passes through the points (0, -3) and (4, 7) in point-slope form.

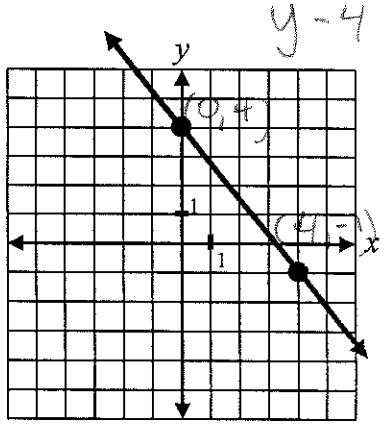
$m = \frac{7 - -3}{4 - 0}$ $\frac{10}{4}$ $\frac{5}{2}$

$y - 7 = \frac{5}{2}(x - 4)$

$y + 3 = \frac{5}{2}x$

Equation: $y - 7 = \frac{5}{2}(x - 4)$

8. Given the graph, write an equation of the line in any form:



$y - 4 = -\frac{5}{4}x$

$y + 1 = -\frac{5}{4}(x - 4)$

Equation: $y = -\frac{5}{4}x + 4$

9. List 5 points on the graph $x - 4 + y = 6$.

$y = -x + 10$

x	y
0	10
1	9
2	8
3	7
4	6

+4 +4

10. The points (-3, -3.5), (-2, -3), (-1, -2.5), (0, -2) are solutions to what line?

$m = \frac{-2 - -3}{0 - -2}$ $\frac{1}{2}$

$y + 2 = \frac{1}{2}x$

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

11. Find the value of k so that the line through the given points has the given slope.

$(9, -k), (3k, -1), m = -\frac{1}{3}$

$\frac{-1 - -k}{3k - 9} = -\frac{1}{3}$

$-3 + 3k = -3k + 9$

$6k = 12$

$k = 2$