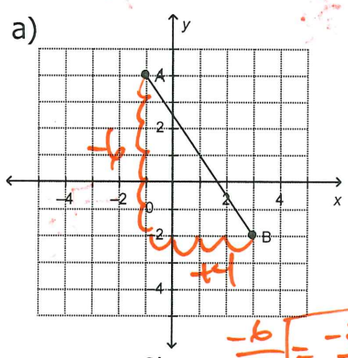
Math 10 Name: Key

6.1-6.4 Review Block:_____

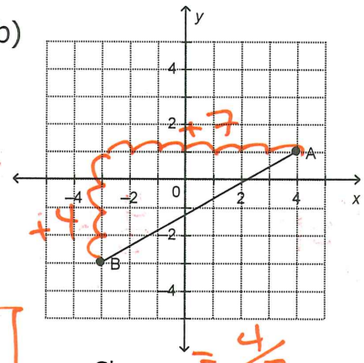
1. Determine the slope of each of the following line segments. (Type A)

a)



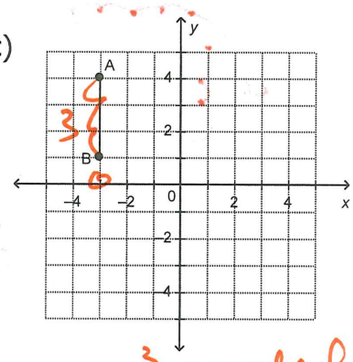
Slope= $\frac{-6}{4} = \boxed{\frac{-3}{2}}$

b)



Slope= $= \frac{4}{7}$

c)



Slope= $\frac{3}{0}$ = undefined

2. Determine the slope of the line passing through each of the following pairs of points. (Type B)

a) A(3, 6) and B(7, 10)

$x_2 y_2$ $x_1 y_1$

$m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{6-10}{3-7} = \frac{-4}{-4} = 1$

Slope= 1

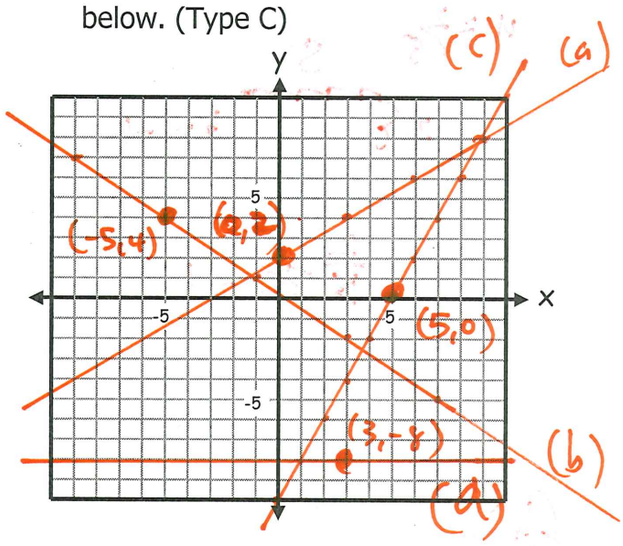
b) C(2, -3) and D(-2, 5)

$x_2 y_2$ $x_1 y_1$

$\frac{y_2 - y_1}{x_2 - x_1} = \frac{-3-5}{2-(-2)} = \frac{-8}{4}$

Slope= $\boxed{-2}$

3. Draw lines which each given slope, passing through each given point, on the grid below. (Type C)



a) $m=\frac{2}{3}$, passing through (0, 2)

b) $m=-\frac{3}{4}$, passing though (-5, 4)

$-3/4$ or $3/-4$

c) $m=\frac{2}{1}$, passing through (5, 0)

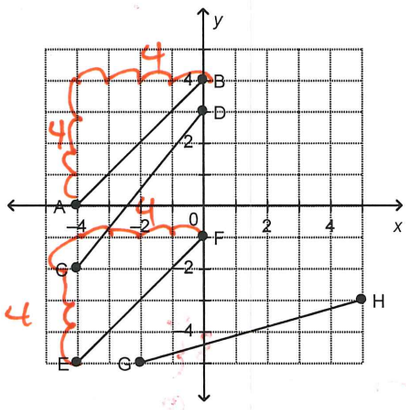
d) m=0, passing through (3, -8)

4. The slope of AB is 2/3. Determine the slope of a line that is (Type D)

a) parallel to AB. $2/3$

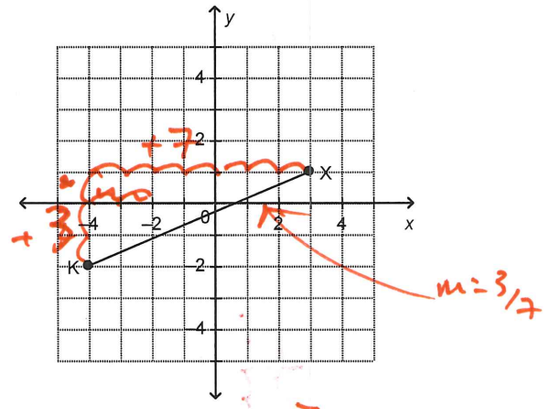
b) perpendicular to AB. $-3/2$

5. Which of the following line segments are parallel? What are their slopes? (Type D)



Line segments: AB || EF Slope= $\frac{4}{4} = \boxed{1}$

6. What is the slope of a line that is perpendicular to the line segment shown below? (Type D)



Slope= $-7/3$

7. Line segment AB has endpoints A(-4, -1) and B(-1, 5). Line segment CD has endpoints C(1, 1) and D(5, -1). Are AB and CD parallel, perpendicular, or neither? Explain. (Type B/D)

$m_{AB} = \frac{-1-5}{-4-(-1)} = \frac{-6}{-3} = 2$ $m_{CD} = \frac{1-(-1)}{1-5} = \frac{2}{-4} = -\frac{1}{2}$

m_{AB} is negative reciprocal m_{CD} ∴ perpendicular.

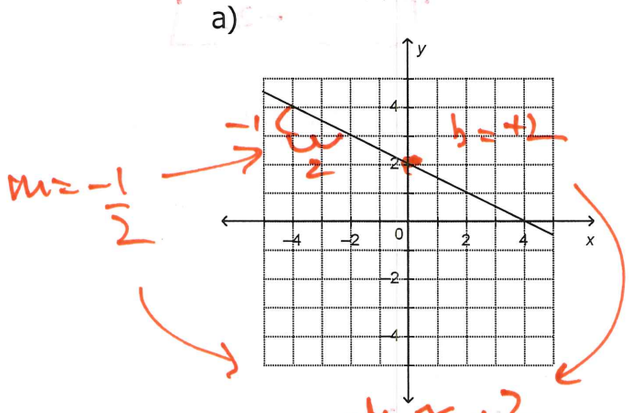
8. Write the equation of a line with a slope of -2 and a y-intercept of 5. (Type E)

$y = mx + b$
$y = -2x + 5$

y= $y = -2x + 5$

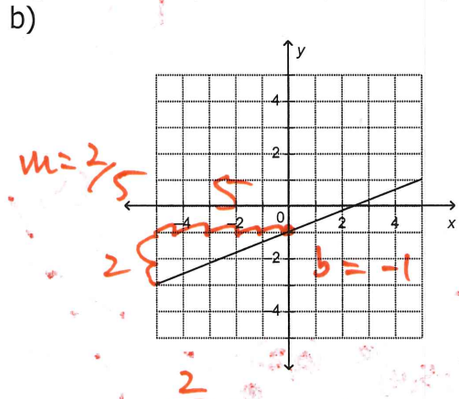
9. Write the equation of each of the following lines in slope-intercept form. (Type E)

a)



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

b)



y= $\frac{2}{5}x - 1$

10. Graph the following lines on the grid below: (Type F)

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