BECA / Dr. Huson / Geometry　　　　　　　　Name:
November 2, 2016

Do Now / Group work: *justify all answers with proper notation and calculation details*

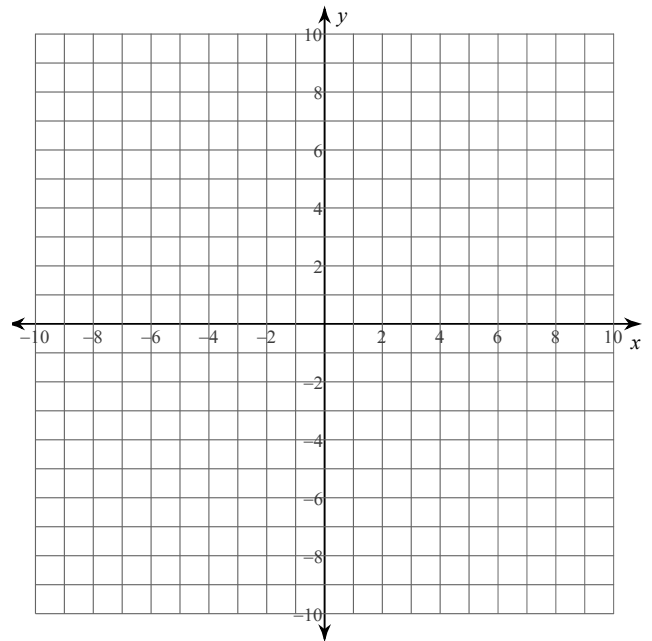1) **Applying slope:** Plot and label $\triangle ABC$: A(-2, -1), B(4, 7), C(8, -1)

2) What are the slopes of the triangle's legs?

a) State the general formula for slope given two points (x_1, y_1) and (x_2, y_2).

b) Slope $\overline{AB}$ =

c) Slope $\overline{BC}$ =

d) Slope $\overline{AC}$ =

3) What is the equation of the line, $\overleftrightarrow{AB}$?

a) State the formula for a line given a slope m and a point (x_1, y_1). (i.e. *point-slope* form)

b) State the equation of the line $\overleftrightarrow{AB}$ by substituting m and the coordinates of point B.

c) Convert the equation for $\overleftrightarrow{AB}$ to *slope-intercept* form.

4) What is the equation of a line through point C having the same slope as $\overleftrightarrow{AB}$?

5a) What is the slope of the line containing the points (0, 6) and (5, 8)?

5b) What is the *equation* of the line containing the same points, (0, 6) and (5, 8)?

6) What is the *equation* of the line containing the point (3, 5) with a slope of ½?

7) What is the *equation* of the line with y-intercept (0, 4) and slope 2?

8) What is a line parallel to $y = (3/4)x + 3$ with y-intercept (0, -2)?

9) What is the equation of a line through (1, 5) and *perpendicular* to $y = (3/4)x + 3$?
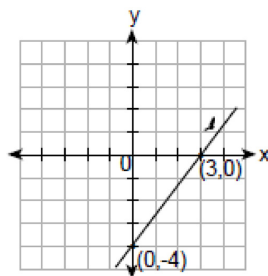
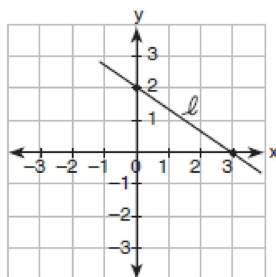10) What is the equation of a line *perpendicular* to $2x + y = 3$ through (-4, 5)?

Homework

1. Does the line passing through (5, 6) and (−3, 8) have a slope of $\dfrac{-3-5}{8-6}$? Explain.

2.

What is the slope of line ℓ shown in the accompanying diagram?

What is the slope of line ℓ in the accompanying diagram?

A line has a slope of $\dfrac{5}{2}$. Through which two points could this line pass?

[A] (−2, −4), (−4, 1)

[B] (2, −4), (4, 1)   [C] (2, −4), (4, −1)

[D] (6, 3), (4, 1)   [E] none of the above

6. Give the coordinates of two points that could be on a line with slope of −2.