**Unit 5A Study Guide Part 1** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1) Find the equation of the line that is:

**Parallel** to the graphed line and passes through the point (2,8).

**Perpendicular** to the graphed line and passes through the point (-10, 6).

1. Find the equation of a line passing through the point (-6, 5) **parallel** to the line  .
2. Find the equation of a line passing through the point (6, 3) **perpendicular** to the line  .
3. Find the **distance** between the points (-18, 12) and (-1, -42).
4. Identify the following in order to answer the questions below.
	1. Slope of  \_\_\_\_\_ Length of \_\_\_\_\_\_\_\_\_\_\_
	2. Slope of \_\_\_\_\_ Length of \_\_\_\_\_\_\_\_\_\_\_
	3. Slope of \_\_\_\_\_ Length of \_\_\_\_\_\_\_\_\_\_\_
	4. Is triangle JKL a right triangle? Explain.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	5. Is triangle JKL an isosceles triangle?

Explain.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Identify the following in order to answer the questions below.
	1. Slope of  \_\_\_\_\_ Length of \_\_\_\_\_\_\_\_\_\_\_
	2. Slope of \_\_\_\_\_ Length of \_\_\_\_\_\_\_\_\_\_\_
	3. Slope of \_\_\_\_\_ Length of \_\_\_\_\_\_\_\_\_\_\_
	4. Is triangle GHJ a right triangle? Explain.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	5. Find the area of triangle GHJ.

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1. Given points A(-3, -4) and B(5, 0), find the coordinates of the point P on segment  that **partitions**

 in the ratio 2 : 3.

8) Right Triangle **ABC** is shown below. Points **R** and **T** are the midpoints of sides **AB** and **BC,** respectively.



A. Prove that the line that connects midpoints **R** and **T** is parallel to side **AC**. (Show that the slope of line AC is equal to the slope of line RT).

B. Prove that the line that connects midpoints **R** and **T** is half the length of side **AC**. (Use the distance formula to find the length of side AC and RT.)