

Intro to Geometry Assessment Review
Unit One B – Coordinate Geometry (IC31)

Name: _____ Key _____

Date: _____ Period: _____

1. Are the following lines parallel, perpendicular, or neither?

a. $3y = 5x - 1$ and $-3x = 5y - 4$

$$y = \frac{5}{3}x - \frac{1}{3}; \quad y = -\frac{3}{5}x + \frac{4}{5}$$

Perpendicular

b. $2y + 2 = -3x$ and $3x - 2y = 8$

$$y = -\frac{3}{2}x - 1; \quad y = \frac{3}{2}x - 4$$

Neither

2. What is the slope of the line:

a. perpendicular to: $y - 7 = 2x$

$$y = 2x + 7$$

$$\perp \text{ so } m = -\frac{1}{2}$$

b. parallel to: $4y - 1 = -x$

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

$$|| \text{ so } m = -\frac{1}{4}$$

3. Given that A(3, 5) and B(7, -9), find:

a. the length of \overline{AB}

$$\begin{aligned} d &= \sqrt{(7-3)^2 + (-9-5)^2} \\ &= \sqrt{4^2 + (-14)^2} = \sqrt{212} \end{aligned}$$

b. the slope between A and B.

$$m = \frac{-9-5}{7-3} = \frac{-14}{4} = \frac{-7}{2}$$

c. the midpoint of \overline{AB} .

$$M = \left(\frac{3+7}{2}, \frac{5+(-9)}{2} \right) = \left(\frac{10}{2}, \frac{-4}{2} \right) = (5, -2)$$