

Algebra 201-007-50 C2

Quiz 4

September 17, 2008

Name: SOLUTIONS

Student Number:

1. (2 points) Find the slope of the line through the points (5, 1) and (-2, -3).

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{(-3) - (1)}{(-2) - (5)} = \frac{-4}{-7} = \frac{4}{7}$$

2. (8 points) Find the equation of the line that passes through the point $(0, -3)$ and is perpendicular to $10x - 5y = 6$.

SLOPE!

$$10x - 5y = 6$$

$$-5y = -10x + 6$$

$$y = \frac{-10}{-5}x + \frac{6}{-5}$$

$$y = 2x - \frac{6}{5}$$

$$\therefore m_1 = 2$$

PERPENDICULAR:

$$m_1 \cdot m_2 = -1$$

$$2m_2 = -1$$

$$m_2 = -\frac{1}{2}$$

$$y = mx + b$$

$$-3 = -\frac{1}{2}(0) + b$$

$$-3 = b$$

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