Name: Solutions

HSG. GPE. B.5

BECA / Dr. Huson / IB Math 6 Geometry

6.11 Do Now Quiz: Parallel and perpendicular lines

1. Write down the slope perpendicular to the given slope.

(a) $m = \frac{5}{2}$ $m_\perp = -\frac{2}{5}$

(b) $m = -\frac{1}{2}$ $m_\perp = 2$

(c) $m = -\frac{7}{3}$ $m_\perp = \frac{3}{7}$

(d) $m = 5$ $m_\perp = -\frac{1}{5}$

2. The line l has the equation $y = \frac{4}{3}x - 11$. To each line below, circle whether l is parallel, perpendicular, or neither.

(a) parallel perpendicular **neither** $y = -\frac{4}{3}x + 11$

(b) parallel **perpendicular** neither $y = -\frac{3}{4}x + 4$

(c) parallel **perpendicular** neither $3x + 4y = 12$

$y = -\frac{3}{4}x + 3$

(d) **parallel** perpendicular neither $4x - 3y = 6$

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

In the following problems, use the point-slope formula: $y - y_A = m(x - x_A)$

3. What is the equation of a line through the point $A(-5, 7)$ and parallel to the line $y = 2x - 12$?

$m = 2$ $y - 7 = 2(x - (-5))$

4. What is an equation of the perpendicular bisector of $\overline{QR}$ with $Q(-2, 1)$ and $R(6, 5)$?

$m = \frac{5-1}{6-(-2)} = \frac{4}{8} = \frac{1}{2}$ $M = \left(\frac{-2+6}{2}, \frac{1+5}{2}\right)$

$m_\perp = -2$ $= (2, 3)$

l: $y - 3 = -2(x - 3)$

or

$y = -2x + 9$