Name: Solutions

6.5 PreQuiz: Slope-intercept form of linear equations

8.F.A.3

1. Find the equation of the given line $\overleftrightarrow{AB}$, $A(0,2)$, $B(3,5)$.

   (a) Find the slope.

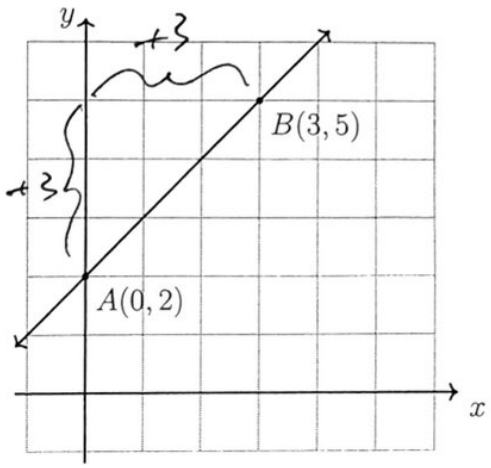
   $m = \frac{3}{3} = 1$

   (b) Write down the y-intercept.

   $b = 2$

   (c) Write the equation of the line.

   $y = x + 2$



2. Is the point $(4,7)$ on the line $y = 3x - 5$? Support your answer algebraically.

   $7 = 3(4) - 5$?

   $7 = 12 - 5$ ✓ yes

3. Complete each statement about linear equations.

   (a) What is the slope of a horizontal line? 0

   (b) What is the y-intercept of the line $y = 2x + 3$? 3

   (c) What is the slope of the line $y = x - 5$? 1

   (d) Which has an undefined slope, a vertical or horizontal line? vertical

   (e) What is the y-intercept of the line $y = -2x$? 0

4. A line has a slope of $-\frac{3}{2}$ and passes through the point $(0,2)$. Write down the equation of the line in the form $y = mx + b$.

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

HSG.GPE.B.5 The slope criteria for parallel and perpendicular lines

5. The line j has the equation $y = 2x - 3$.

   (a) What is the slope of the line k, given $k \parallel j$? 2

   (b) What is the slope of the line l, given $l \perp j$? $-\frac{1}{2}$

6. The line l has the equation $y = -\frac{3}{5}x + 4$. To each line below, circle whether l is parallel, perpendicular, or neither.

   (a) parallel perpendicular (neither) $y = \frac{3}{5}x - 2$

   (b) parallel (perpendicular) neither $y = \frac{5}{3}x + 9$

   (c) (parallel) perpendicular neither $y = -\frac{3}{5}x + 1$

   (d) parallel perpendicular (neither) $y = -\frac{5}{3}x - 7$

7. Write the linear equation $6x + 2y = 4$ in the form $y = mx + c$.

$$-6x \quad -6x$$
$$2y = -6x + 4 \qquad \div 2$$
$$y = -3x + 2$$

8. The line has the equation $y = -4x + 11$.

   (a) Write down it's slope and y-intercept. $m =$ -4 $b =$ 11

   (b) Is the point $(3,1)$ on the line? Justify your answer.

$$1 = -4(3) + 11 \quad ?$$
$$1 = -12 + 11$$
$$1 \neq -1 \qquad \text{NO}$$