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6.6 Quiz: Slope-intercept form of linear equations   8.F.A.3

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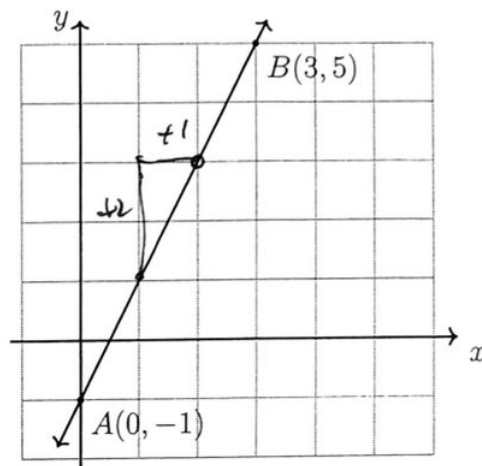
   (a) Find the slope.

   $m = 2$

   (b) Write down the y-intercept.

   $b = -1$

   (c) Write the equation of the line.

   $y = 2x - 1$

2. Is the point $(3, 10)$ on the line $y = 2x + 4$? Support your answer algebraically.

   $10 = 2(3) + 4$?

   $10 = 6 + 4$ ✓   yes

3. Answer each statement about linear equations.

   (a) What is the y-intercept of the line $y = -5x + 5$?   5

   (b) What is the slope of a vertical line?   undefined

   (c) What is the y-intercept of the line $y = -2x - 1$? -1

   (d) What is the slope of the line $y = -x + 7$? -1

   (e) Which has a zero slope, a vertical or horizontal line?   horizontal

4. A line has a slope of $-\frac{2}{3}$ and passes through the point $(0, 5)$. Write down the equation of the line in the form $y = mx + b$.

   $y = -\frac{2}{3}x + 5$

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

5. The line j has the equation $y = 4x - 1$.

    (a) What is the slope of the line k, given $k \parallel j$? **4**

    (b) What is the slope of the line l, given $l \perp j$? $-\frac{1}{4}$

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

    (a) **parallel** perpendicular neither $\quad y = \frac{3}{2}x - 4$

    (b) parallel perpendicular **neither** $\quad y = \frac{2}{3}x + 5$

    (c) parallel perpendicular **neither** $\quad y = -\frac{3}{2}x + 13$

    (d) parallel **perpendicular** neither $\quad y = -\frac{2}{3}x + 1$

7. Write the linear equation $2x - 3y = -12$ in the form $y = mx + c$.

$$-3y = -2x - 12$$
$$y = \frac{2}{3}x + 4$$

8. The line has the equation $y = \frac{4}{5}x + 10$.

    (a) Write down it's slope and y-intercept. $\quad m = \frac{4}{5} \quad b = 10$

    (b) Is the point $(-5, 6)$ on the line? Justify your answer.

$$6 = \frac{4}{5}(-5) + 10 \ ?$$
$$6 = -4 + 10 \ \checkmark \quad \text{yes}$$