Name: _____     Date: _____

# Get Ready

**Solving Equations**

1. Solve each equation.

   **a)** $4x + 3 = 11$      **b)** $8y - 5 = 6y + 7$

   **c)** $\frac{1}{5}z + 3 = \frac{1}{4}z + 5$      **d)** $\sqrt{d} = 5$

2. Write each equation in the form $y = mx + b$.

   **a)** $x - y + 3 = 0$      **b)** $5x + y - 7 = 0$

   **c)** $3x + 6y - 8 = 0$      **d)** $\frac{1}{3}x - 5y + 2 = 0$

**Slope of a Line**

3. Find the slope of the line through each pair of points.

   **a)** $(-4, -6)$ and $(-6, 10)$
   **b)** $(5, 2)$ and $(8, -3)$
   **c)** $(3, 8)$ and $(5, 12)$
   **d)** $(7, -3)$ and $(-1, 5)$

**Equation for a Line**

4. Find an equation for the line that

   **a)** has slope $-4$ and $y$-intercept 7

   **b)** has slope $-\frac{1}{4}$ and $y$-intercept $-3$

   **c)** has slope 5 and passes through $(4, 3)$

   **d)** has slope $\frac{1}{3}$ and passes through $(-2, 5)$

5. Find an equation for the line that passes through each pair of points.

   **a)** $(1, 3)$ and $(5, 11)$
   **b)** $(-2, 4)$ and $(3, -1)$
   **c)** $(-5, 2)$ and $(-3, -4)$
   **d)** $(-3, -10)$ and $(1, 2)$

**Parallel and Perpendicular Lines**

6. Find the slope of a line with each property.

   **a)** parallel to the line defined by $y = 5x + 4$

   **b)** parallel to the line defined by $y = \frac{1}{4}x - 2$

   **c)** perpendicular to the line defined by $y = 3x + 5$

   **d)** perpendicular to the line defined by $y = -\frac{2}{5}x - \frac{2}{3}$

7. Find an equation for the line that

   **a)** is parallel to the line defined by $y = 2x + 3$ and passes through the point $(4, 5)$

   **b)** is parallel to the line defined by $y = \frac{3}{2}x + 1$ and passes through the point $(-2, 3)$

   **c)** is perpendicular to the line defined by $y = -3x + 2$ and passes through the point $(1, -5)$

   **d)** is perpendicular to the line defined by $y = -\frac{3}{4}x - 5$ and passes through the point $(-2, -4)$

**Similar and Congruent Triangles**

8. $\triangle ABC$ is similar to $\triangle PQR$.

   **a)** Find the measure of $\angle P$.
   **b)** Find the length of QR.