Algebra Skills Review: Parallel and Perpendicular Lines #1

1. Find the slope of a line parallel to the line through the points $(10,\ 10)$ and $(12,\ 3)$.

2. Determine whether the line passing through the points $P(5,\ -4)$ and $Q(1,\ 7)$ is parallel to the line passing through the points $R(11,\ -7)$ and $S(7,\ 4)$.

3. Find the slope of a line parallel to the line $6x - y = 7$.

4. Find the slope of a line perpendicular to the line through the points $(-4,\ 7)$ and $(5,\ 9)$.

5. Give the slope-intercept form of the equation of the line that is perpendicular to $-9x - 8y = 9$ and contains $(-3,\ -8)$.

6. Write the standard form of the equation of the line passing through the point (2, 1) and perpendicular to the line $-5x - 6y = -6$.

   [A] $-6x + 5y = 7$ [B] $-5x - 6y = 4$ [C] $-5x + 6y = -4$ [D] $6x - 5y = 7$

7. Find an equation of the line that passes through the point (1, –4) and is parallel to the line $2x + 5y = -1$.

   [A] $2x + 5y = -3$ [B] $2x + 5y = -18$ [C] $x - 4y = -1$ [D] $2x - 5y = -1$

8. Which of the following equations has a graph that is parallel to the graph of $4x - 2y = 7$?

   [A] $-2y = 4x + 2$ [B] $2y = 4x + 7$ [C] $-4x - 2y = -7$

   [D] $7 - 4x = 2y$ [E] $4x + 2y = 2$

9. Determine if the two lines $5x - 3y = -15$ and $y = -\dfrac{3}{5}x - 3$ are *parallel*, *perpendicular*, or *neither*.

10. Which of the following lines is *not* parallel to $y = -3x - 5$?

   [A] $y + 3x = -6$ [B] $-3y - x = 3$ [C] $-3x - y = 3$ [D] $-6x - 2y = 3$