Homework: Point-slope and linear equations

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

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

   (b) $m = -3$ $m_\perp =$

   (c) $m = 2$ $m_\perp =$

   (d) $m = -\frac{3}{2}$ $m_\perp =$

2. Write down the center and radius of each circle.

   (a) $(x-4)^2 + (y-2)^2 = 25$

   (b) $(x+1)^2 + (y-5)^2 = 16^2$

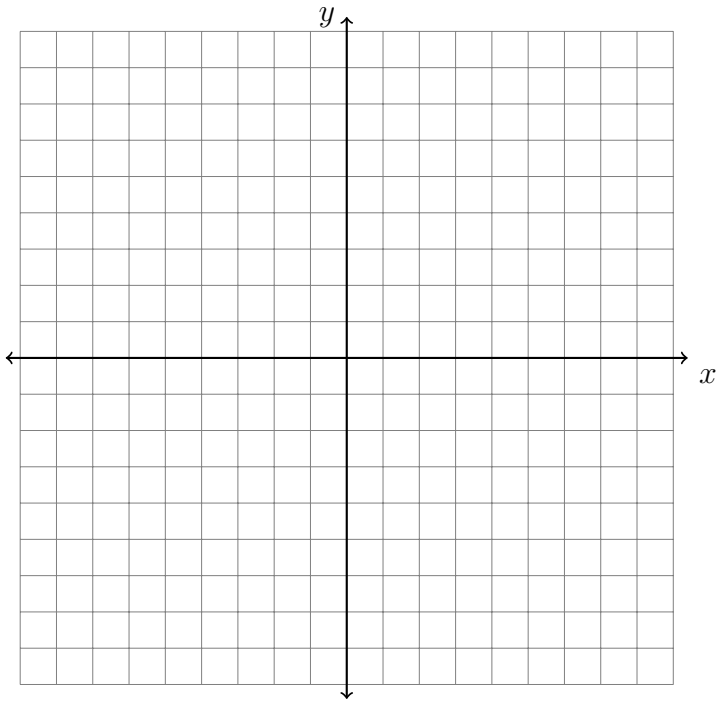
   In the following problems, use the point-slope formula: $y - y_1 = m(x - x_1)$

3. What is the equation of a line through $(1, 2)$ with slope $m = 2$?

4. What is the equation of a line through $(-5, 3)$ parallel to the line $y = \frac{1}{2}x - 2$?

5. What is an equation of a line which passes through $(6, 9)$ and is perpendicular to the line whose equation is $4x - 6y = 15$?

6. On the set of axes below, graph the quadrilateral $ABCD$ having coordinates $A(-3, -3)$, $B(5, 1)$, $C(6, 8)$, and $D(-2, 4)$.



Find the length of each side of the quadrilateral.