6.6b Do Now: Distance formula, perpendicular and parallel slopes

1. If the slope of a line is $m = \frac{1}{2}$, find the slope of a parallel line and a perpendicular line.

   (a) $m_{\parallel} =$ (b) $m_{\perp} =$

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

   (a) $m = -\frac{3}{5}$ $m_{\perp} =$ (c) $m = 0.75$ $m_{\perp} =$

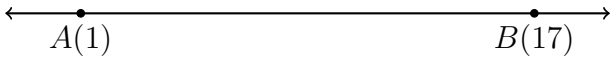
   (b) $m = -2$ $m_{\perp} =$ (d) $m = -\frac{1}{2}$ $m_{\perp} =$

3. The line l has the equation $y = -\frac{1}{2}x + 3$.

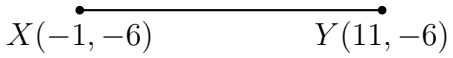
   (a) What is the slope of the line k, given $k \parallel l$?

   (b) What is the slope of the line j, given $j \perp l$?

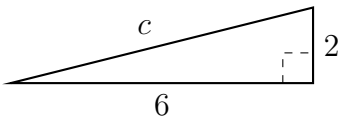
4. Find the length of the given segment, AB, $A(1)$ and $B(17)$.



5. Find XY, a segment in the x-y plane, with $X(-1, -6)$ and $Y(11, -6)$.



6. Find c. Leave in radical form. (use $a^2 + b^2 = c^2$)



7. What is the length of $\overline{CD}$ if $C(3, 1)$ and $D(7, -2)$?

   Use $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

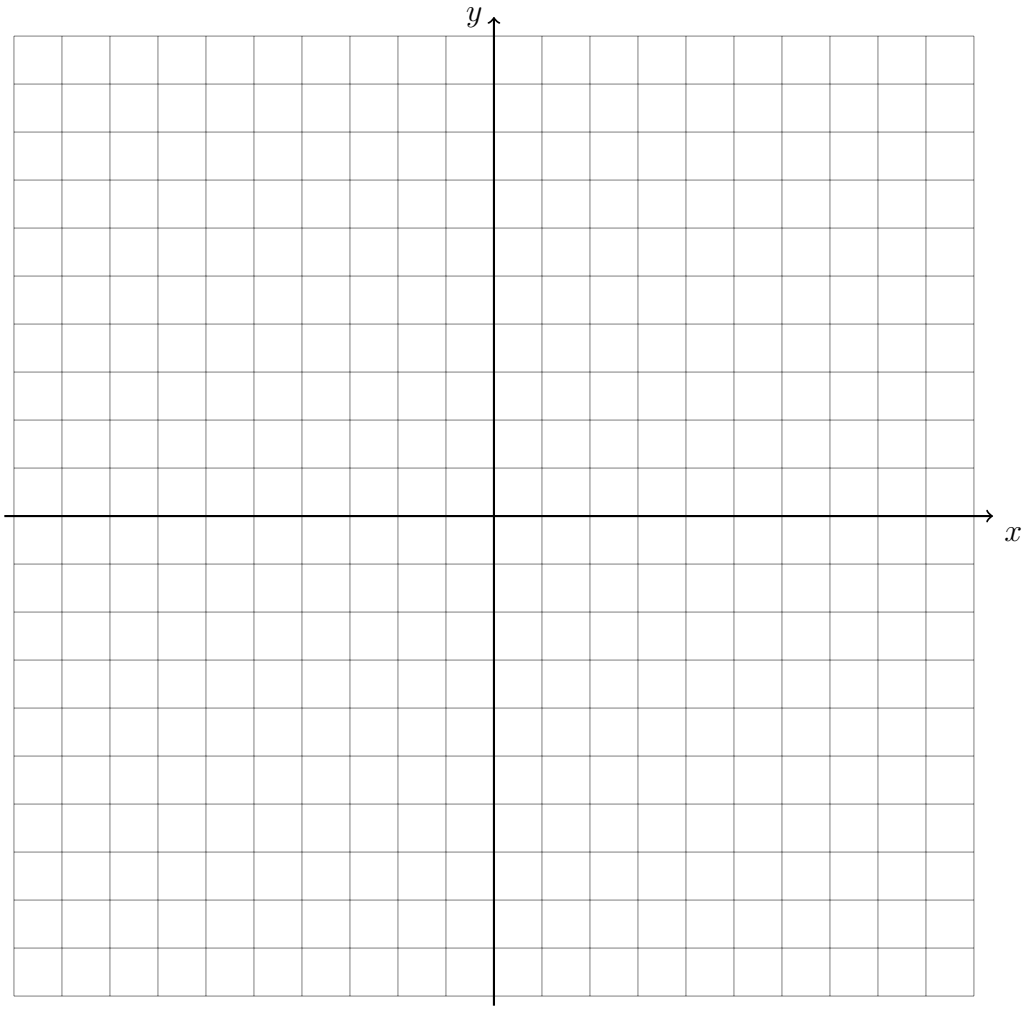
8. What is the length of $\overline{EF}$ if $E(2, 1)$ and $F(-10, 6)$?

Early finishers

9. Graph and label the two equations. Mark their intersection as an ordered pair.

   $y = \frac{3}{2}x - 9$ $y = -\frac{2}{3}x + 4$

   Are the lines parallel, perpendicular, or neither? Justify your answer.



10. Graph and label the two equations. Mark their intersection as an ordered pair.

$y = \frac{1}{4}x + 2$ $x - y = -3$

Are the lines parallel, perpendicular, or neither? Justify your answer.