6.7 Do Now Quiz: Perpendicular and parallel slopes, the distance formula

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

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

   (b) $m = -2$ $m_\perp =$

   (c) $m = 0.25$ $m_\perp =$

   (d) $m = -\frac{1}{5}$ $m_\perp =$

2. The line l has the equation $y = \frac{5}{2}x + 9$.

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

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

3. What is the slope of a line parallel to the line $2x + 2y = 14$?

4. What is the slope of a line perpendicular to the line $-2x + y = 1$?

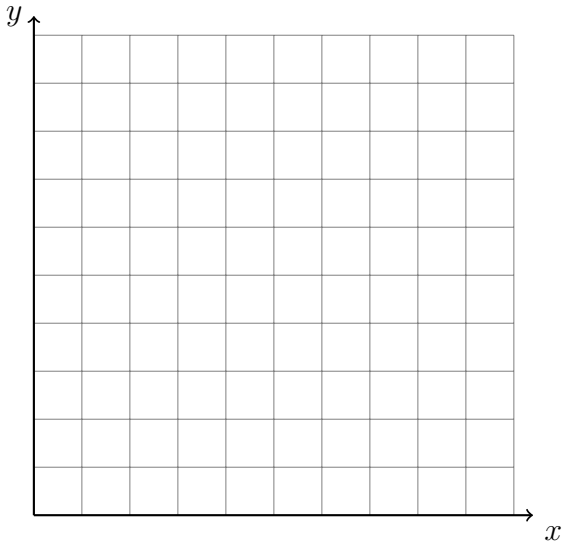
Note: The formula for distance is $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

5. Graph $\triangle ABC$ and find the lengths of its sides. $A(1, 2)$, $B(9, 8)$, $C(9, 2)$.

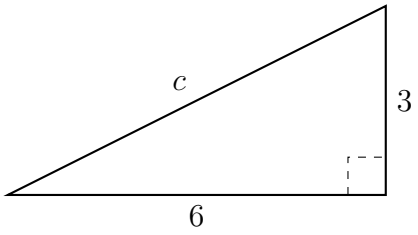
   (a) $AC =$

   (b) $BC =$

   (c) $AB =$



6. Find c.

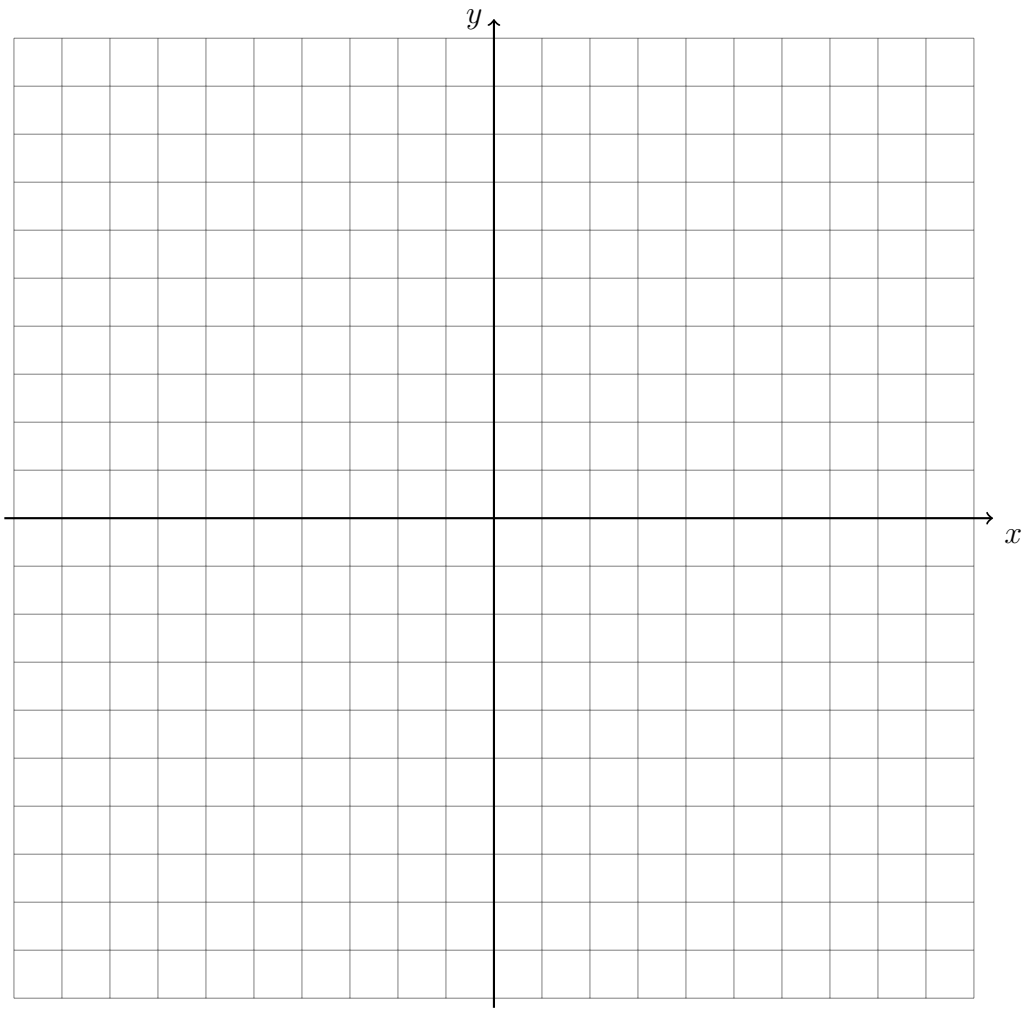


7. What is the length of $\overline{CD}$ if $C(3, -1)$ and $D(0, 5)$?

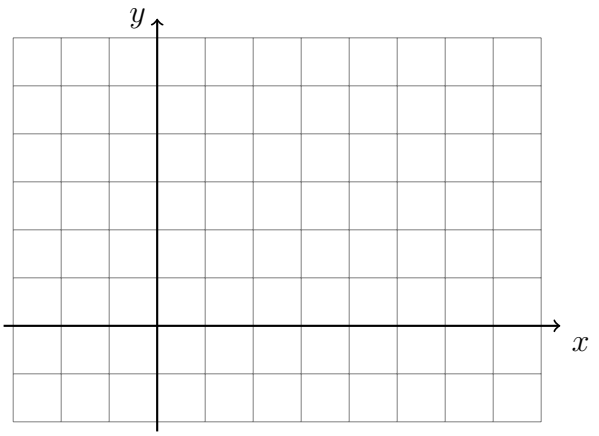
8. Graph and label the two equations. Mark their intersection as an ordered pair.

$y = x + 7$ $4x + 5y = -10$

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



9. On the graph below, draw $\overline{AB}$, with $A(-2,3)$ and $B(5,1)$, labeling the end points. Determine and state the coordinates of the midpoint M of $\overline{AB}$ and mark and label it on the graph.



10. Spicy: 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 slope of each of the four sides. What type of quadrilateral is $ABCD$? Justify your answer.