6.7b 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 $y = \frac{5}{2}x + 9$.

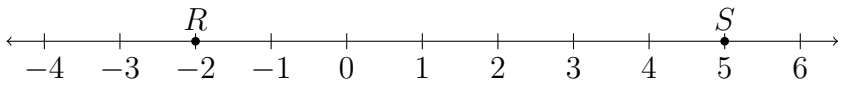
   (a) What is the slope of the line k, given $k \parallel l$?

   (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 $y = -x + 7$?

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

5. Given $\overleftrightarrow{RS}$ as shown on the number line, with $R = -2$ and $S = 5$. What is the distance on the number line between the points R and S?

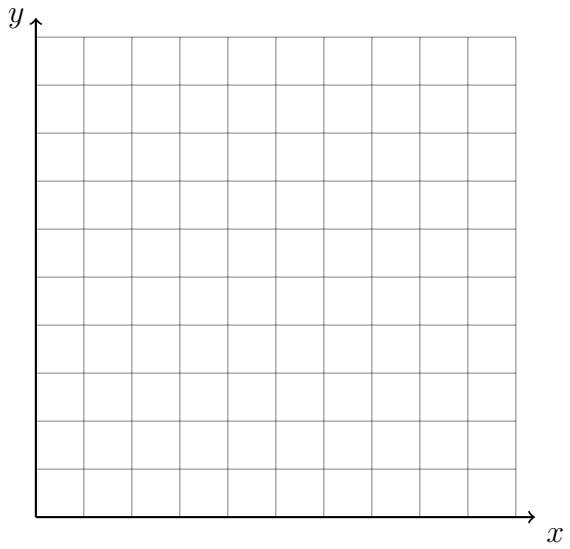


6. Graph and label $\triangle ABC$ and find the lengths of its sides. $A(1,2)$, $B(9,8)$, $C(9,2)$.

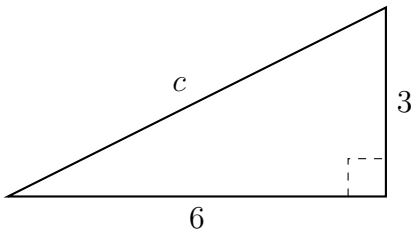
   (a) $AC =$

   (b) $BC =$

   (c) Use the formula for distance:
   $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
   $AB =$



7. Find c. (hint: $a^2+b^2 = c^2$)



8. What is the length of $\overline{CD}$ if $C(3,-1)$ and $D(0,5)$?
   Use the formula for distance: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$