

## Warmup 1: Distance and Midpoint (Review)

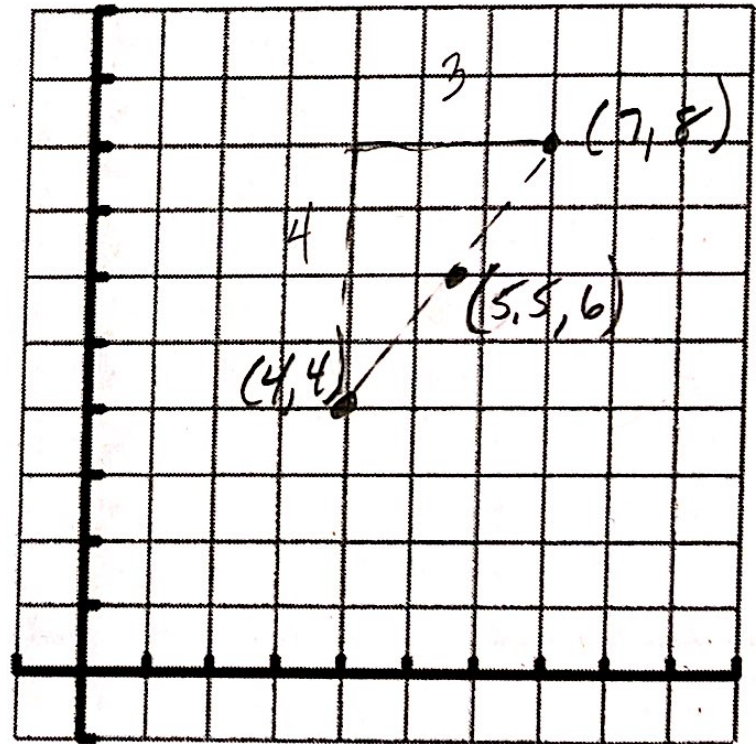
Use points  $(x_1, y_1)$  &  $(x_2, y_2)$   
 $(4, 4)$  &  $(7, 8)$

a) find the distance between

the two points.  $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$   
 $d = \sqrt{(7 - 4)^2 + (8 - 4)^2} = \sqrt{3^2 + 4^2} = \sqrt{9 + 16}$   
 $= \sqrt{25} = 5$

b) find the midpoint between

the two points.  $\text{Midpt} = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$   
 $\left( \frac{4 + 7}{2}, \frac{4 + 8}{2} \right) = \left( \frac{11}{2}, \frac{12}{2} \right) = (5.5, 6)$



c) graph the two points to verify your answers to parts a & b