Given two ordered pairs, complete the chart.

$m = \frac{y_2 - y_1}{x_2 - x_1}$ = slope opp. rec. slope Graph do $a^2+b^2=c^2$ $\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$

ORDERED PAIRS	SLOPE	SLOPE OF THE PARALLEL LINE	SLOPE OF THE PERPENDICULAR LINE	DISTANCE	MIDPOINT
1. (5, -3) (3, 7)	-5	-5	$\frac{1}{5}$	10.2u	(4, 2)
2. (3, -2) (3, 16)	und.	und.	0	18 u	(3,7)
3. (2, 6) (4, 3)	$-\frac{3}{2}$	$-\frac{3}{2}$	$\frac{2}{3}$	3.6 u	(3, 4.5)

① $m = \frac{7-3}{3-5} = \frac{10}{-2} = -5$

$2^2+10^2=c^2$

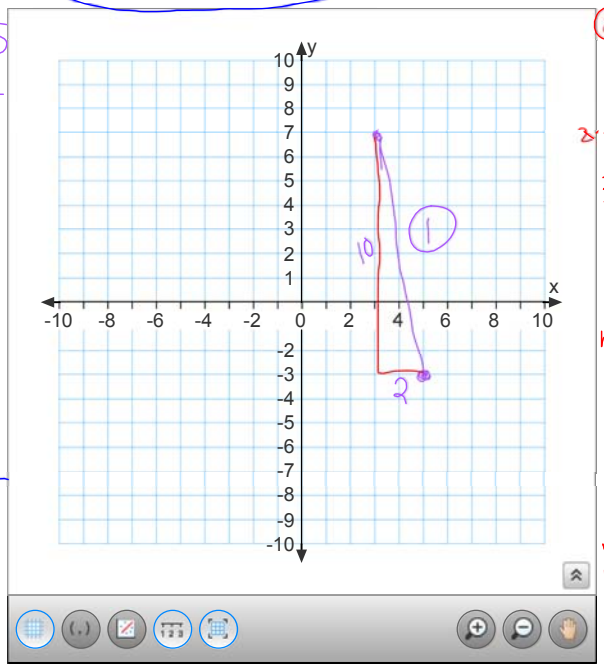
$4+100=c^2$

$\sqrt{104}=\sqrt{c^2}$

10.2u

$\left(\frac{5+3}{2}, \frac{-3+7}{2}\right)$

(4, 2)



② (3,-2) (x, y)

M (3,7)

$\frac{3+x}{2}=3 \cdot 2$ $\frac{-2+y}{2}=7$

$3+x=6$ $-2+y=14$

$x=3$ $y=16$

(3,16)

$m = \frac{16-(-2)}{3-3} = \frac{18}{0}$

und.

⊥ slope: opp. reciprocal is $-\frac{0}{18}=0$

vertical line

(3,16)

(3,-2)

18u dist.

③ (2, 6)(4, y)

$m = -\frac{3}{2}$

$\frac{y-6}{4-2} = \frac{-3}{2}$

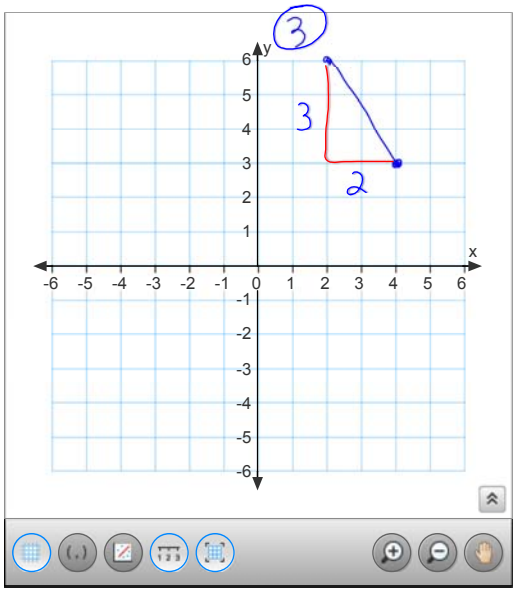
$\frac{y-6}{2} = \frac{-3}{2}$

$2(y-6) = 2(-3)$

$2y-12 = -6$

$2y = 6$

$y = 3$



dist.:

$2^2+3^2=c^2$

$4+9=c^2$

$\sqrt{13}=\sqrt{c^2}$

3.6

mdpt:

$\left(\frac{2+4}{2}, \frac{6+3}{2}\right)$

(3, 4.5)