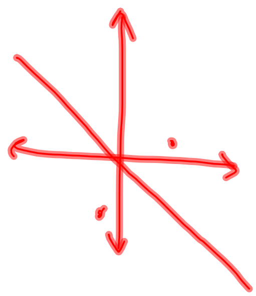
$(x, y) \xrightarrow{r_{y=x}} (y, x)$

$(x, y) \xrightarrow{r_{y=-x}} (-y, -x)$



$(2, 3) \xrightarrow{r_{y=-2x+1}} \left(-\frac{14}{5}, \frac{3}{5}\right)$

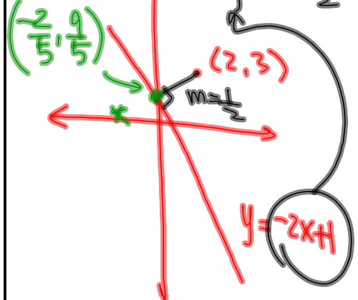
$y-3=\frac{1}{2}(x-2)$

$-2x+1-3=\frac{1}{2}(x-2)$

$-4x-4=x-2$

$-2=5x$

$x=-\frac{2}{5}$, $y=-2\left(-\frac{2}{5}\right)+1=\frac{9}{5}$



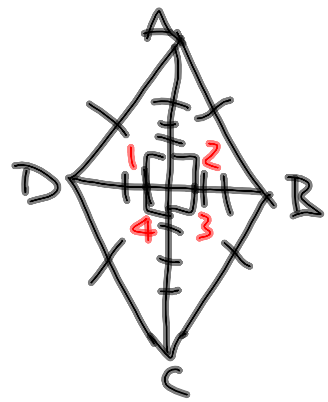
$-\frac{12}{5}$ $(2, 3)$

$\left(-\frac{2}{5}, \frac{9}{5}\right)$ $-\frac{6}{5}$

$\left(-\frac{14}{5}, \frac{3}{5}\right)$

Given $\overline{AC} \not\perp \overline{BD}$

Prove ABCD is not a Rhombus



$\overline{AC} \perp \overline{BD}$

$$\frac{(x-3)^2}{9} + \frac{(y+2)^2}{16} = 1$$

x-int $(y=0)$ $\frac{(x-3)^2}{9} + \frac{(0+2)^2}{16} = 1$

$\frac{(x-3)^2}{9} = \frac{3}{4}$ $\quad (x-3) = \pm\frac{\sqrt{27}}{2}$

$(x-3)^2 = \frac{27}{4}$ $\quad x = 3 \pm \frac{3\sqrt{3}}{2}$

y-int. $(x=0)$ $\frac{(0-3)^2}{9} + \frac{(y+2)^2}{16} = 1$

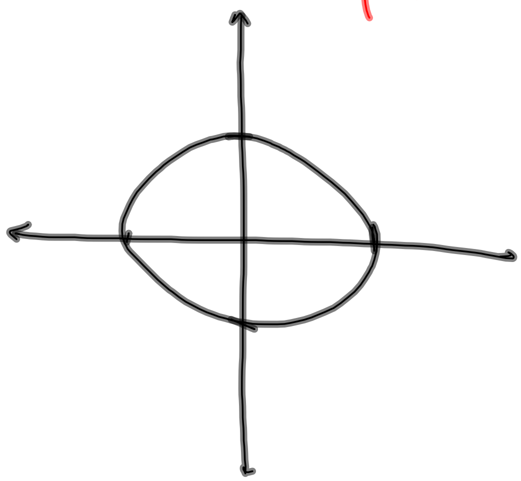
$\frac{(y+2)^2}{16} = 0$, $y=-2$

x-int = ± 3

y-int = ± 2

centered at $(0,0)$

eq. of an ellipse



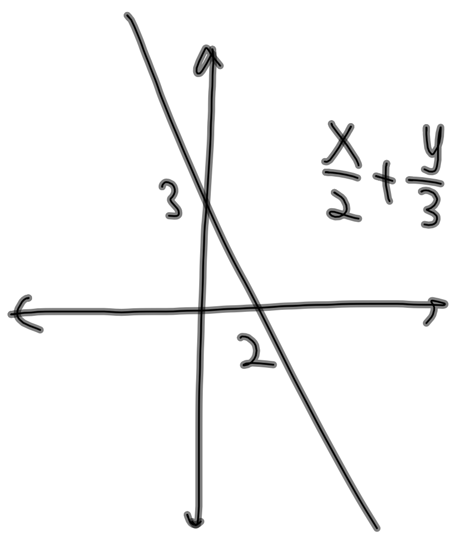
$$\frac{x^2}{9}+\frac{y^2}{4}=1$$

$$y = mx + b$$

$$y - y_1 = m(x - x_1)$$

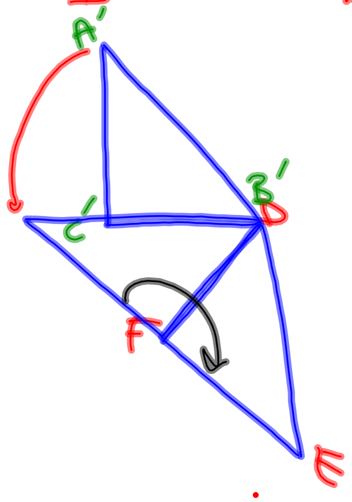
$$Ax + By + C = 0$$

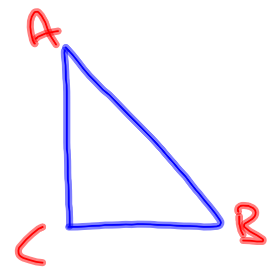
$$\frac{x}{x_0}+\frac{y}{y_0}=1$$



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

$\Delta ABC \rightarrow \Delta DEF$





① $T_{\overrightarrow{BD}}$

② $R_{\angle C'DF, B'}$

③ $r_{\overline{DF}}$

A(6, 9) B(-4, 14)

(0, 12)

C is b/w A & B and on $\overline{AB}$.

If AC : CB = 3 : 2,

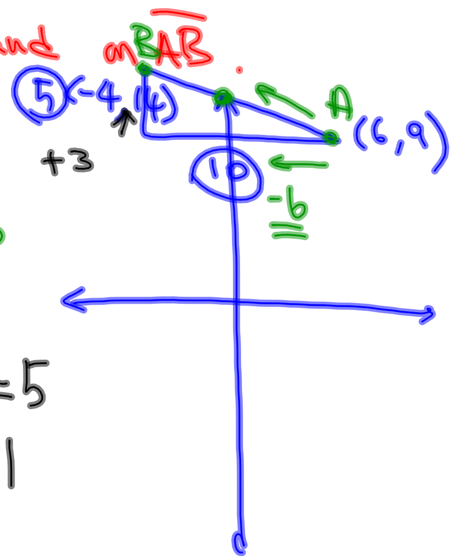
Find C.

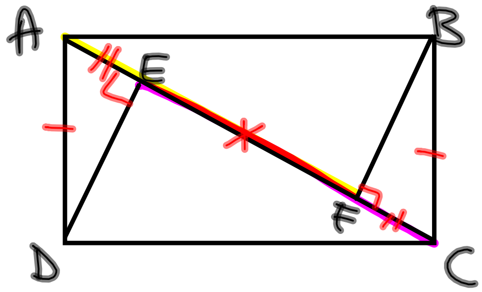
$3a+2a=10$

$a=2$

$3b+2b=5$

$b=1$





G: ABCD is a $\boxed{R}$

$\overline{DE} \perp \overline{AC}$, $\overline{BF} \perp \overline{AC}$

$\overline{AF} \cong \overline{CE}$

Prove $\triangle AED \cong \triangle CFB$