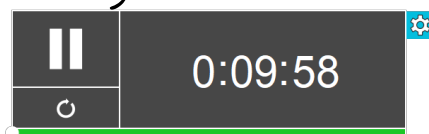


Good morning!

1. "Here"



2. DeltaMath extended to tomorrow

3. Quiz tomorrow afternoon

4. Today we are practicing equations!

What is the slope of a line perpendicular to the line whose equation is $6x - 10y = 160$. Fully reduce your answer.

$\perp m$ $\left\{ \begin{array}{l} \textcircled{1} \text{ Change sign} \\ \textcircled{2} \text{ flip fraction} \end{array} \right.$
 opposite reciprocals

Answer:

Submit Answer

$$\begin{array}{r} 6x - 10y = 160 \\ -6x \qquad \qquad -6x \\ \hline \end{array}$$

$$\begin{array}{r} -10y = -6x + 160 \\ \hline \cancel{10} \qquad \qquad \qquad \cancel{10} \qquad \qquad \cancel{10} \\ y = \frac{6}{10}x - 16 \end{array}$$

$$\boxed{\perp m = -\frac{5}{3}}$$

$$\underline{\text{original } m = \frac{6}{10} = \frac{3}{5}}$$

SAME

What is the slope of a line parallel to the line whose equation is $5x - y = -9$. Fully reduce your answer.

Original

$$y = 5x + 9$$

$$m = 5$$

$$\begin{array}{r} -5x \quad -5x \\ \hline y = \frac{-5x - 9}{-1 \quad -1} \end{array}$$

Answer:

Submit Answer

$m = 5$

Quiz Review :)

Write the equation of a line passing through the given point that satisfies the following condition:

1. Parallel to $5x - 2y = 4$ **① original**
 passing through $(-4, 2)$ $y = mx + b$

2. Perpendicular to $-3x + 2y = 7$
 passing through $(6, 5)$

$$\begin{array}{r} 5x - 2y = 4 \\ -5x \quad -5x \\ \hline -2y = -5x + 4 \\ -2 \quad -2 \quad -2 \\ \hline y = \frac{5}{2}x - 2 \end{array}$$

Original
 $m = \frac{5}{2}$

② Slope of new line m
 $\parallel \rightarrow$ same
 $\perp \rightarrow$ opp reciprocal

③ Plug in m, x, y , solve for b .

$$\begin{aligned} y &= mx + b \\ 2 &= \frac{5}{2}(4) + b \\ 2 &= 10 + b \\ +10 &+10 \\ \hline 12 &= b \end{aligned}$$

$$y = \frac{5}{2}x + 12$$

$$\begin{array}{r} -3x + 2y = 7 \\ +3x \quad +3x \\ \hline 2y = 3x + 7 \\ \frac{2y}{2} = \frac{3x+7}{2} \\ y = \frac{3}{2}x + \frac{7}{2} \end{array}$$

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

$$\begin{aligned} 5 &= -\frac{2}{3}(6) + b \\ 5 &= -4 + b \\ +4 &+4 \\ \hline 9 &= b \end{aligned}$$

$$y = -\frac{2}{3}x + 9$$

Write the standard equation of a circle with the given radius:

3. $r = 4$; C(0,0)

$$(x-0)^2 + (y-0)^2 = 16$$

$$x^2 + y^2 = 16$$

$$(x-h)^2 + (y-k)^2 = r^2$$

4. $r = 2.5$; C(-2,1)

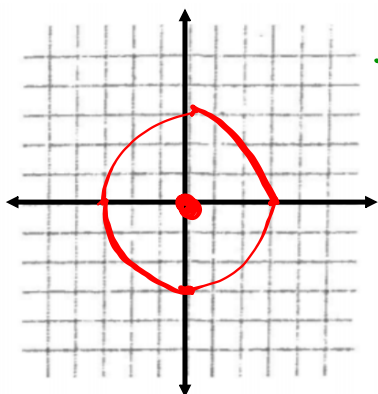
$$(x+2)^2 + (y-1)^2 = 6.25$$

5. $r = 24$; C(-3, -3)

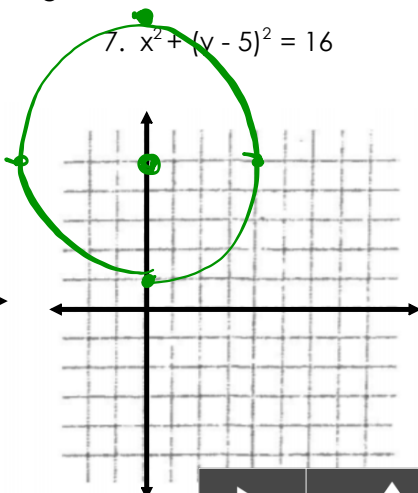
$$(x+3)^2 + (y+3)^2 = 576$$

Graph each circle, labeling the center and radius.

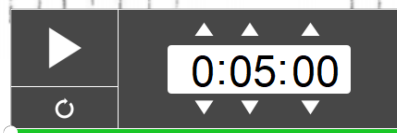
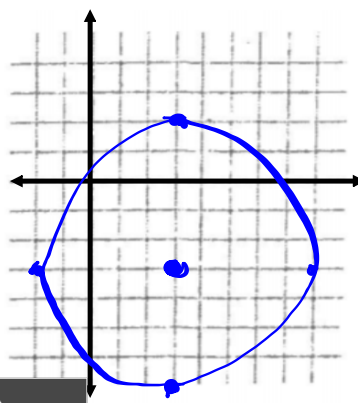
6. $x^2 + y^2 = 9$



7. $x^2 + (y - 5)^2 = 16$



8. $(x - 3)^2 + (y + 3)^2 = 25$



Write the standard equation of each circle. Then state the center and radius.

$$9. \quad x^2 + y^2 - 10x - 16y + 88 = 0$$

$$10. \quad x^2 + y^2 + 22x - 2y = -120$$

$$x^2 - 10x + 25 + y^2 - 16y + 64 = -88 + 25 + 64$$

$$(x-5)^2 + (y-8)^2 = 1$$

Center $(5, 8)$

radius $r = \sqrt{1}$
radius = 1

10. $x^2 + y^2 + 22x - 2y = -120$

$$x^2 + 22x + \boxed{121} + y^2 - 2y + \boxed{1} = -120 + \boxed{121} + \boxed{1}$$

$$(x+11)^2 + (y-1)^2 = 2$$

Center $(-11, 1)$

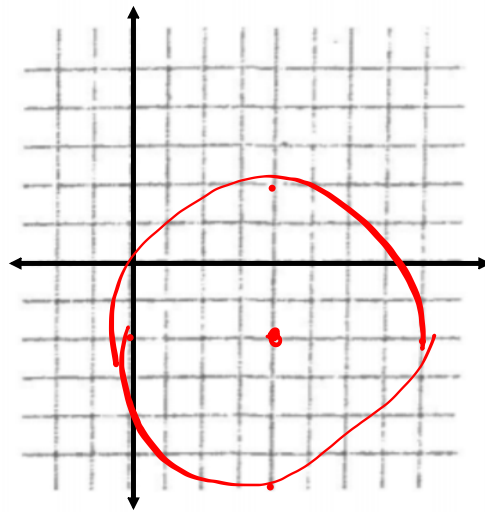
$$\text{radius} = \sqrt{2} \approx 1.41$$

Graph:

11. $(x - 4)^2 + (y + 2)^2 = 16$

Center $(4, -2)$

radius = 4



$$\underline{6x^2 + 6y^2 - 18x + 30y + 4 = 100}$$

$$x^2 + y^2 - 3x + 5y =$$

$$\frac{96}{6}$$

$$16$$

$$x^2 - 3x + \square + y^2 + 5y + \square = 16 + \square + \square$$