

HW 3 - 3: Answers

1. $\{(2, 1)\}$

2. $(4, 3)$ $(3, 4)$

3. $\{(1, -1), (3, -3)\}$



Aug 13-9:18 AM

1. a. Solve graphically:

$$x + 2y = 4 \rightarrow y = -\frac{1}{2}x + 2$$

$$-3x + y = -5 \rightarrow y = 3x - 5$$

$$m = -\frac{1}{2} \quad m = 3 \quad (2, 1)$$

$$b = 2 \quad b = -5$$

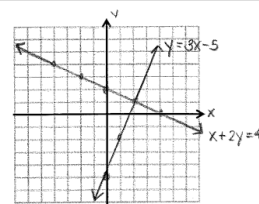
b. Solve the same system algebraically.

$$\begin{array}{r} 3(x + 2y = 4) \\ -3x + y = -5 \\ \hline 3x + 6y = 12 \\ -3x + y = -5 \\ \hline 7y = 7 \\ y = 1 \end{array}$$

$$x + 2 = 4$$

$$x = 2$$

$(2, 1)$



Aug 13-12:04 PM

Solve graphically. Be sure to include all required parts.

HW 3-5 #1

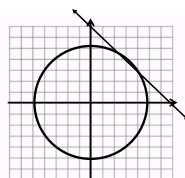
$$y = 2x + 1$$

$$y = 2x^2 + 4x$$

$$y = -x + 7$$

$$m = -\frac{1}{1}$$

$$b = 7$$



$(3, 4), (4, 3)$

Sep 9-8:47 PM

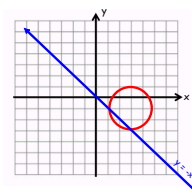
3. $(x-3)^2 + (y+1)^2 = 4$

$y = -x$

center: $(3, -1)$

radius 2

Answer: $\{(1, -1), (3, -3)\}$



Sep 9-8:49 PM

U3D4

Solving Systems Algebraically

Solve the two equations from yesterday algebraically.

Steps to consider:

1. Solve the linear equation for x or y.
2. Substitute into the circle (or parabola) equation.
3. Solve.
4. Substitute your answer into the linear equation to solve for the remaining variable.
5. Express your answer as points in solution ie $\{(2, 3), (-1, 4)\}$

Aug 13-9:09 AM

Aug 13-11:10 AM

1. $x^2 + y^2 = 25$
 $4x + 3y = 0$

$\textcircled{2}$ Substitute into the circle.
 $x^2 + \left(-\frac{4}{3}x\right)^2 = 25$
 $\frac{9}{9}x^2 + \frac{16}{9}x^2 = 25$
 $\left(\frac{9}{9}\right)\frac{25}{9}x^2 = 25 \cdot \frac{9}{9}$
 $\sqrt{x^2} = \sqrt{9}$
 $x = \pm 3$

$\textcircled{3}$ $4x + 3y = 0$
 $x = 3$ $x = -3$
 $4(3) + 3y = 0$ $4(-3) + 3y = 0$
 $12 + 3y = 0$ $-12 + 3y = 0$
 $3y = -12$ $3y = 12$
 $y = -4$ $y = 4$
 $\{(3, -4), (-3, 4)\}$

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2. $(x-2)^2 + (y+3)^2 = 4$
 $x - y = 3 \rightarrow y = x - 3$

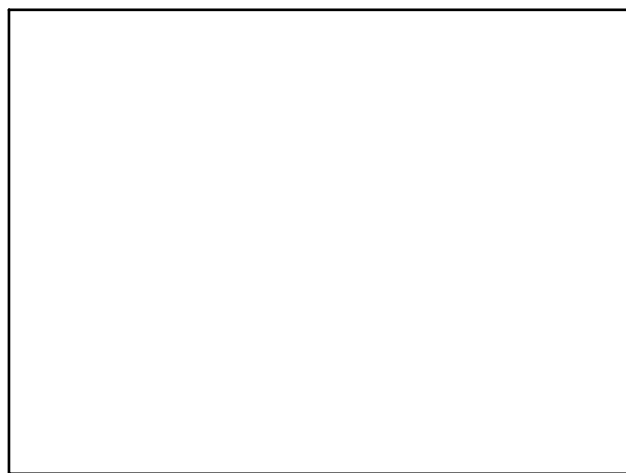
$(x-2)^2 + (x-3+3)^2 = 4$
 $(x-2)^2 + x^2 = 4$
 $(x-2)(x-2) + x^2 = 4$
 $x^2 - 2x - 2x + 4 + x^2 = 4$
 $2x^2 - 4x + 4 = 4$
 $2x^2 - 4x = 0$

$2x(x-2) = 0$

$2x = 0$	$x - 2 = 0$
$x = 0$	$x = 2$
$x - y = 3$	$x - y = 3$
$0 - y = 3$	$2 - y = 3$
$-y = 3$	$-2 - y = 3$
$-1 - 1$	$-4 = 3$
$y = -3$	$y = -7$

$\{(0, -3), (2, -1)\}$

Aug 13-11:11 AM



Oct 17-7:38 AM