



# Math Virtual Learning

# College Algebra

May 8, 2020



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## Lesson: May 8, 2020

**Objective/Learning Target:** Students will be able to solve systems of equations involving conics.



## Warm Up Activity:

Click the link below and practice solving linear systems of equations.

[Linear Systems](#)

## Lesson:

Watch the video over conic systems of equations.

Watch until 12:00 or longer for more

examples. We encourage you to have your own sheet of paper out and work along with the video.

Solve:  $\begin{cases} -x^2 + y = -7 & \text{para} \\ x^2 + y^2 = 9 & \text{circle} \end{cases}$

$(-2, \sqrt{5})$   
 $(-2, -\sqrt{5})$   
 $(1, 2-\sqrt{2})$   
 $(1, -2-\sqrt{2})$

$y + y^2 = 2$   
 $y^2 + y - 2 = 0$   
 $(y+2)(y-1) = 0$   
 $y = -2, 1$

$(-2)^2 + y^2 = 9$   
 $4 + y^2 = 9$   
 $y^2 = 5$   
 $y = \pm\sqrt{5}$

$(1)^2 + y^2 = 9$   
 $1 + y^2 = 9$   
 $y^2 = 8$



## Practice:

Work through the practice problems at the links

[Practice 1](#) - practice is on the right side of page.

## Additional Practice: [From MCC 2019 Review](#)

47. Find the points of intersection of the graphs of the two equations.

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

$$x - y = -3$$

a.  $(-3, 0), (0, 3)$

b.  $(-9, 0), (9, 0)$

c. They do not intersect

d.  $(-3, 0), (3, 0)$

## Additional Practice: [MCC Review Version 2](#)

31. Determine how many solutions the system has and solve:

$$\begin{cases} x^2 + 2y = 6 \\ 2x + y = 3 \end{cases}$$

- a. (4, -5)      b. (2,1)      c. (0,3)      d. (0,3) and (4, -5)



## Additional Practice: [MCC Review Version 1](#)

40. Find the point(s) of intersection for the following system of equations:  $\begin{cases} y - 2x = 5 \\ x^2 + y^2 = 85 \end{cases}$

a.  $(-6, -7)$  &  $(2, 9)$

b.  $(6, -7)$  &  $(-2, 9)$

c. No Solution

d.  $(3.1, 11.2)$  &  $(-7.1, -9.2)$





## Additional Practice Answers:

47) A

31) D

40) A