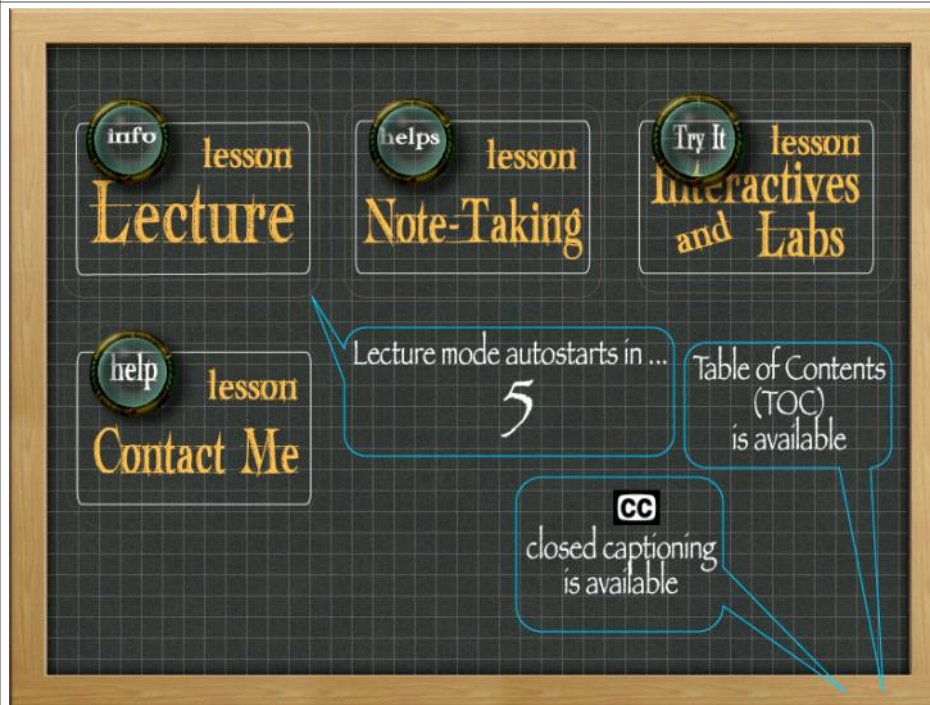


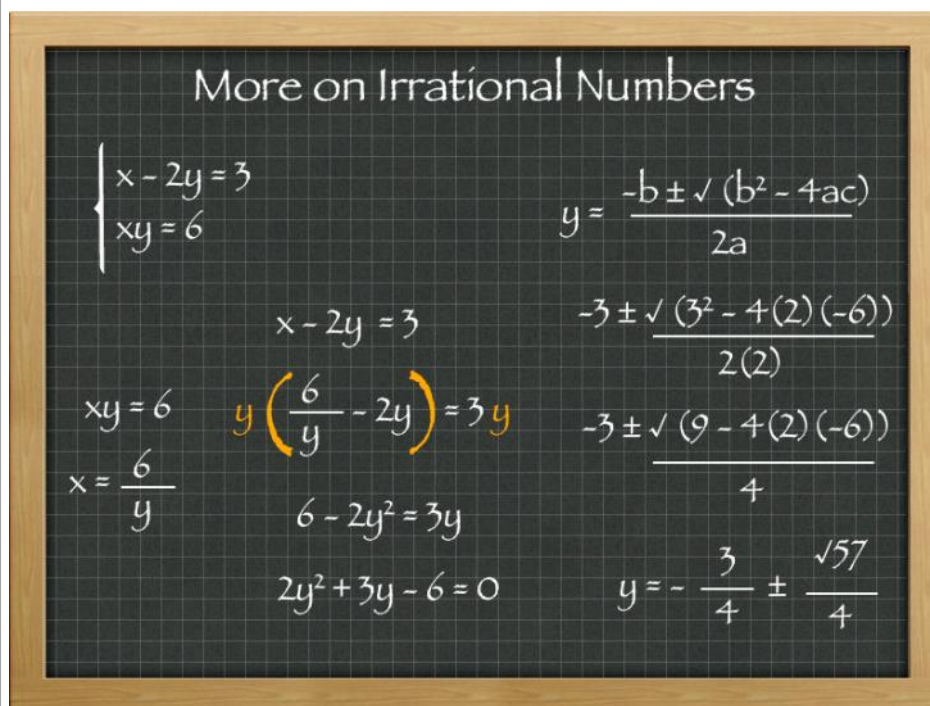
Conic_More on Irrational Roots

Friday, November 15, 2013
10:35 AM

Slides



Notes



In this lesson, you are not really learning anything new. You are just combining two things you have already been learning. The combination here is combining a conic section system of equation with using the quadratic equation instead of completing the squares to find your answer.

Take a look at how this one is solved. In the first column, one of the equations was shuffled in preparation to substitute into the other equation.

In the second equation, we worked to get that standard quadratic equation form.

In the last column, we used the quadratic formula to solve for the y values of the root, or where the two shapes cross each other when graphed.

Click next to take it from here and find the x values of the coordinate pairs.

$$\begin{cases} x - 2y = 3 \\ xy = 6 \end{cases} \quad \begin{array}{l} x - 2y = 3 \\ x = 2y + 3 \end{array} \quad y = -\frac{3}{4} \pm \frac{\sqrt{57}}{4}$$

$$x = 2 \left(-\frac{3}{4} + \frac{\sqrt{57}}{4} \right) + 3 \quad \left| \quad x = 2 \left(-\frac{3}{4} - \frac{\sqrt{57}}{4} \right) + 3 \right.$$

$$x = \frac{-6}{4} + \frac{2\sqrt{57}}{4} + \frac{12}{4} \quad \left| \quad x = \frac{-6}{4} - \frac{2\sqrt{57}}{4} + \frac{12}{4} \right.$$

$$\frac{2(-3 + \sqrt{57} + 6)}{\cancel{4} 2} = \frac{3 + \sqrt{57}}{2} \quad \left| \quad \frac{2(-3 - \sqrt{57} + 6)}{\cancel{4} 2} = \frac{3 - \sqrt{57}}{2} \right.$$

$$\left(\frac{3 + \sqrt{57}}{2}, -\frac{3}{4} + \frac{\sqrt{57}}{4} \right) \quad \left(\frac{3 - \sqrt{57}}{2}, -\frac{3}{4} - \frac{\sqrt{57}}{4} \right)$$

Now we will solve for each of the two possible values for y. To the left we have if the sign is positive and to the right we have if it is negative.

In the end, you have both point's coordinate position.

Try It

Congratulations!
 You have completed
 this topic

Give us feedback about
 this lesson if you wish...


lesson
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