Inspiring Greatness

ISD

INDEPENDENCE SCHOOL DISTRICT

Math Virtual Learning

College Algebra

May 4, 2020

College Algebra
Lesson: May 4, 2020

Objective/Learning Target: Students will able to identify and graph the conic ellipses

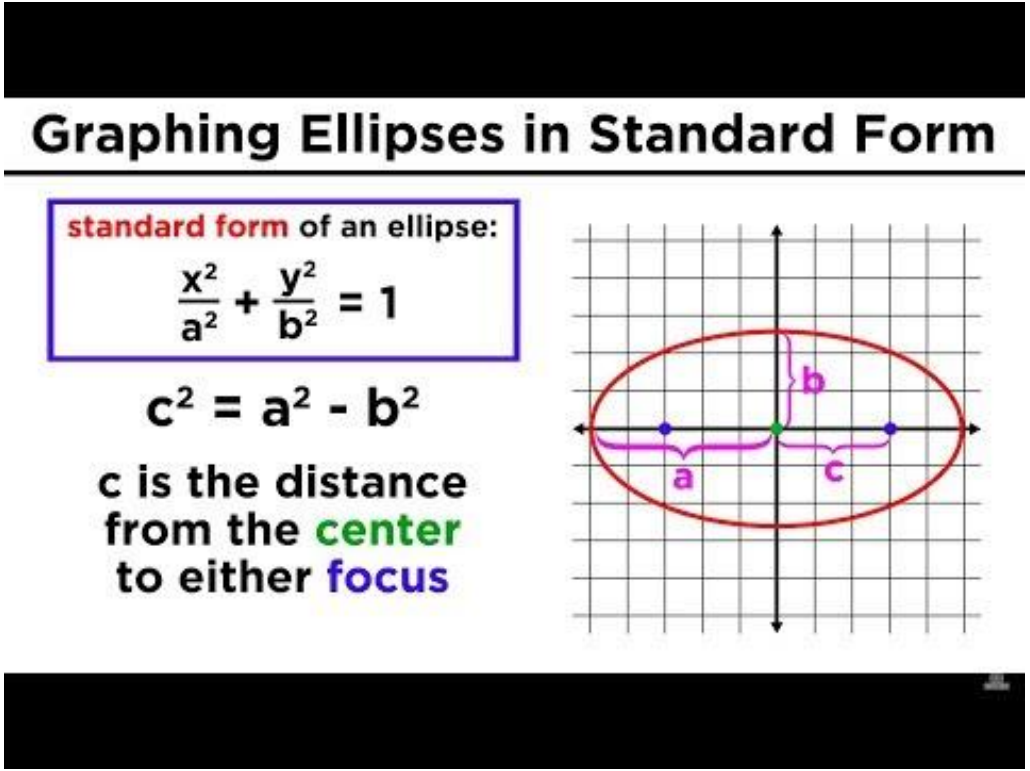
Warm Up Activity:

Click the link below. Move the 3 labeled points around and come up with at least 3 conclusions about what is happening.

Interactive Ellipse

Lesson:

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



Practice:

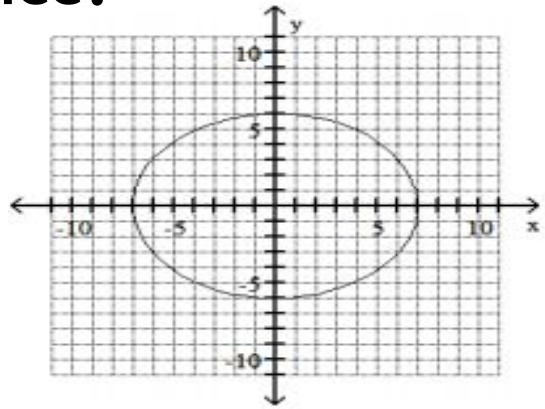
Work through the practice problems at both links

Properties from equation

Graph from equation

Additional Practice:

1) Match the function and its foci to the graph.



A) $\frac{x^2}{49} + \frac{y^2}{36} = 1$

foci at $(-\sqrt{13}, 0)$ and $(\sqrt{13}, 0)$

B) $\frac{x^2}{49} - \frac{y^2}{36} = 1$

foci at $(-\sqrt{13}, 0)$ and $(\sqrt{13}, 0)$

C) $\frac{x^2}{36} + \frac{y^2}{49} = 1$

foci at $(-\sqrt{13}, 0)$ and $(\sqrt{13}, 0)$

D) $\frac{x^2}{49} + \frac{y^2}{36} = 1$

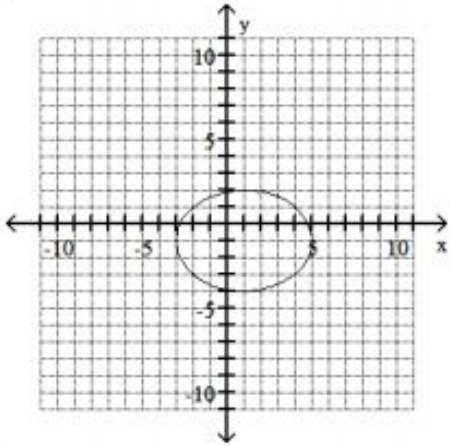
foci at $(-7, 0)$ and $(7, 0)$

Additional Practice:

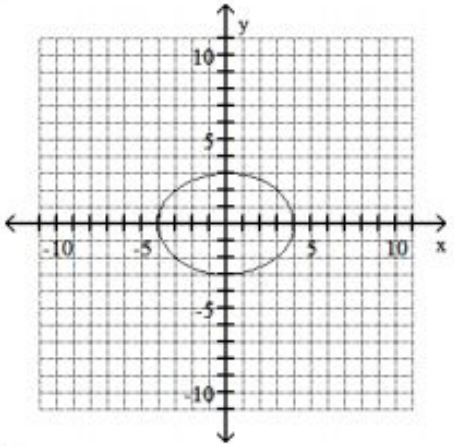
2) Map the equation of ellipse to the correct graph.

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

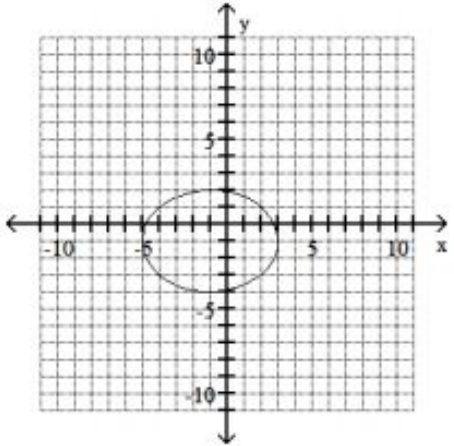
A)



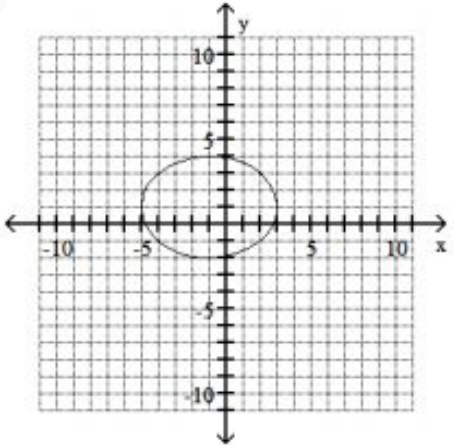
B)



C)



D)



Additional Practice:

3) Convert the equation to the standard form of an ellipse by completing the square.

$$36x^2 + 16y^2 + 72x + 96y - 396 = 0$$

A) $\frac{(x-1)^2}{16} + \frac{(y-3)^2}{36} = 1$

B) $\frac{(x+1)^2}{16} + \frac{(y+3)^2}{36} = 1$

C) $\frac{(x+3)^2}{16} + \frac{(y+1)^2}{36} = 1$

D) $\frac{(x+1)^2}{36} + \frac{(y+3)^2}{16} = 1$

Additional Practice Answers:

1) A

2) A

3) B