KeyConcept 
Standard Forms of Equations for Ellipses  VI 
FI  Then 
You analyzed and graphed parabolas. 
(Lesson 7—1) 
Now/ 
Analyze and graph equations of ellipses and circles. 
Use equations to identify ellipses and circles. 

Center

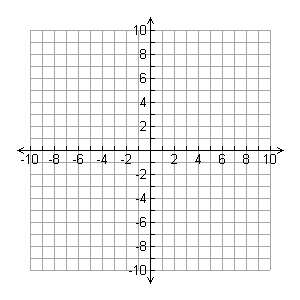
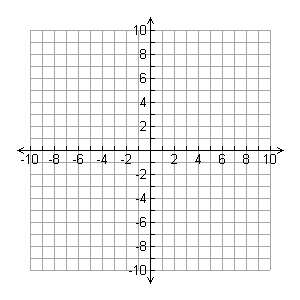
Axis (major and minor)

Vertices (on major axis)

Co-Vertices (on minor axis)

Foci

EXAMPLE 1 
Graph Ellipses 
A. Graph the ellipse 
9 
4 



Center

Axis

Major

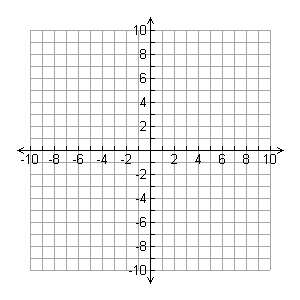
Minor

Vertices (on major axis)

Co-Vertices (on minor axis)

Foci

EXAMPLE 1 
Graph Ellipses 
B. Graph the ellipse 4x2 + 24x+ y 
2- IOy-3= O. 



Center

Axis

Major

Minor

Vertices (on major axis)

Co-Vertices (on minor axis)

Foci

**For the next few examples, put your work on graph paper.**

EXAMPLE 1 
Guided Practice 
Graph the ellipse 
144* + 1152x+ 25y2 - 300y- 396 = O. 

Write Equations Given Characteristics 
EXAMPLE 2 
A. Write an equation for an ellipse with a major axis 
from (5, —2) to (—1, —2) and a minor axis from (2, O) 
to (2, 

Write Equations Given Characteristics 
EXAMPLE 2 
B. Write an equation for an ellipse with vertices at 
(3, -4) and (3, 6) and foci at (3, 4) and (3, -2) 

EXAMPLE 2 
Guided Practice 
Write an equation for an ellipse with co-vertices 
(—8, 6) and (4, 6) and major axis of length 18. 