## Ellipses 7-4

## Definition of an Ellipse

## Picture

> Major axis

Minor axis
Foci
Center

## Standard Equation Form

| Horizontal Major Axis | Vertical Major Axis |
| :--- | :---: |
|  |  |
|  |  |


| Length of Major Axis |  |
| :--- | :--- |
| Length of Minor Axis |  |
| Center |  |
| Foci |  |

Find the coordinates of the center and the foci and the lengths of the major and minor axes. Then graph it.

1. $\frac{x^{2}}{9}+\frac{y^{2}}{64}=1$


Ellipses 7-4
2. $\frac{(x+3)^{2}}{4}+\frac{(y+1)^{2}}{9}=1$

3. $9 x^{2}+16 y^{2}=144$

4. $x^{2}+4 y^{2}+24 y=-32$


