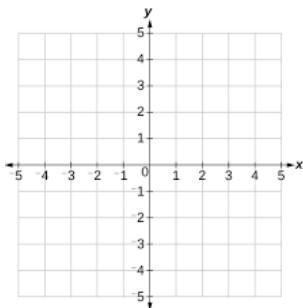


**Check Your Understanding**

- Simplify:  $\sqrt{45}$
- Plot the points and label them on the coordinate plane:  $P(4,0)$ ,  $L(0,-3)$ ,  $O(-4,0)$ ,  $T(0,3)$

**MULTIPLE-CHOICE**

- Given: semi-major axis length of 6
    - $a = 3$
    - $a = 6$
    - $a = 12$
    - $a = 36$
  - Given: ellipse and  $b = 3$ 
    - semi-minor axis = 6, minor axis = 3
    - semi-minor axis = 1.5, minor axis = 3
    - semi-minor axis = 3, minor axis = 6
    - semi-conjugate axis = 3, conjugate axis = 6
  - Given: ellipse,  $F(\pm 4, 0)$ , major axis length of 9
    - Horizontal,  $c = 4$ , and  $a = 9$
    - Horizontal,  $c = 4$ , and  $a = 4.5$
    - Vertical,  $c = 4$ , and  $a = 4.5$
    - Horizontal,  $b = 4$ , and  $a = 4.5$
  - Given: transverse axis length of 20
    - $a = 10$
    - $b = 10$
    - $a = 20$
    - $a = 40$
  - Given: hyperbola and  $b = 4$ 
    - semi-conjugate axis = 8, conjugate axis = 4
    - semi-conjugate axis = 4, conjugate axis = 16
    - semi-conjugate axis = 2, conjugate axis = 4
    - semi-conjugate axis = 4, conjugate axis = 8
  - Given: hyperbola and  $V(0, \pm 7)$ 
    - E-W,  $c = 7$
    - E-W, semi-transverse length of 7
    - S-N,  $c = 7$
    - S-N, semi-transverse length of 7
- Fill in the blank.**
- Given an ellipse or a hyperbola, the distance from the center to the vertices is defined as \_\_\_\_\_.
  - Given an ellipse or a hyperbola, the distance from the center to the co-vertices is defined as \_\_\_\_\_.
  - Given an ellipse or a hyperbola, the distance from the center to the foci is defined as \_\_\_\_\_.
  - Parabola*: If the directrix is  $x = 3$  and the focus is at  $(-3, 0)$ , then  $p = \underline{\hspace{2cm}}$ . Write the equation in standard form.
  - Ellipse*: Given  $V(0, \pm 13)$  and the distance from F to V is 1, write the equation in standard form.