

PreCalculus  
Chapter 9  
Practice Quiz

**1. Sketch the parabola. Label the vertex, focus, and directrix:**

a.  $(y+3)^2 = -4(x+1)$

b.  $(x-5)^2 = -2(y+2)$

**2. Sketch the ellipse. Find the center, major vertices, and foci:**  $\frac{(x-4)^2}{100} + \frac{(y+2)^2}{36} = 1$

**3. Put in standard form:**

a.  $x^2 + 3y - 8x - 2 = 0$

b.  $6x^2 + y^2 - 12x + 4y - 14 = 0$

Answer Key

1.

a. Vertex is at  $(-1, -3)$   
opens left  
focus is  $(-2, -3)$   
directrix is  $x = 0$

b. Vertex is at  $(5, -2)$   
opens down  
focus is  $(5, -2\frac{1}{2})$   
directrix is  $y = -1\frac{1}{2}$

2. center:  $(4, -2)$   
major vertices:  $(-6, -2)$  &  $(14, -2)$   
foci:  $(-4, -2)$  &  $(12, -2)$

3.  $(x-4)^2 = -3(y-6)$

4.  $\frac{(x-1)^2}{4} + \frac{(y+2)^2}{24} = 1$