

**Precalculus**  
**Unit 8 Review**

Name \_\_\_\_\_

**Identify the type of conic, list all the key features, and accurately draw a graph.**

- For circles, list the center and radius.
- For parabolas, list the vertex, focus, and directrix.
- For ellipses, list the center, vertices, and foci.
- For hyperbolas, list the center, vertices, foci, transverse axis, and asymptotes.

1.  $x^2 = -12y$

2.  $\frac{x^2}{16} - \frac{y^2}{4} = 1$

3.  $(x-2)^2 + y^2 = 25$

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4.  $\frac{(x-1)^2}{49} + \frac{(y+5)^2}{9} = 1$

5.  $4x^2 + y^2 = 64$

6.  $(y+3)^2 = 8(x-2)$

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7.  $(x+1)^2 + (y+2)^2 = 12$

8.  $4(y-3)^2 - 36(x-4)^2 = 36$

9. Write the standard form of the equation of the circle with radius  $r = 4$  and center  $(2, -5)$ .

10. Write the standard form of the equation of the parabola with focus  $(1, -1)$  and directrix  $y = -5$ .

