

Writing Equations of Conics

Date _____ Period _____

Use the information provided to write the standard form equation of each circle.

1) Center: $(8, -10)$

Point on Circle: $(16, -9)$

2) Center: $(8, -5)$

Radius: 5

Use the information provided to write the standard form equation of each ellipse.

3) Vertices: $(7, -8), (-7, -8)$

Co-vertices: $(0, -2), (0, -14)$

4) Foci: $(14, -8), (-10, -8)$

Endpoints of minor axis: $(2, -3), (2, -13)$

Use the information provided to write the standard form equation of each hyperbola.

5) Vertices: $(10, -4), (-6, -4)$

Conjugate Axis is 2 units long

6) Vertices: $(6, 13), (6, 5)$

Foci: $(6, 14), (6, 4)$

Use the information provided to write the equation of each parabola.

7) Vertex: $(9, -5)$, Focus: $\left(\frac{109}{12}, -5\right)$

8) Vertex: $(2, 3)$, Directrix: $y = \frac{13}{4}$

Answers to Writing Equations of Conics

$$1) (x - 8)^2 + (y + 10)^2 = 65$$

$$2) (x - 8)^2 + (y + 5)^2 = 25$$

$$3) \frac{x^2}{49} + \frac{(y + 8)^2}{36} = 1$$

$$4) \frac{(x - 2)^2}{169} + \frac{(y + 8)^2}{25} = 1$$

$$5) \frac{(x - 2)^2}{64} - (y + 4)^2 = 1$$

$$6) \frac{(y - 9)^2}{16} - \frac{(x - 6)^2}{9} = 1$$

$$7) \frac{1}{3}(x - 9) = (y + 5)^2$$

$$8) -(y - 3) = (x - 2)^2$$