Name : _____ Score : _____

Teacher : _____ Date : _____

Writing Ellipses Equations

Use the given information to write the standard form equation of the ellipse.

1) Foci: $(8 , -5 + \sqrt{105})$, $(8 , -5 - \sqrt{105})$
Co-vertices: $(12 , -5)$, $(4 , -5)$

2) Vertices : $(-8 , 11)$, $(-8 , -9)$
Co-vertices: $(-3 , 1)$, $(-13 , 1)$

3) Vertices : $(13 , -4)$, $(-11 , -4)$
Foci: $(1 + 3\sqrt{7} , -4)$, $(1 - 3\sqrt{7} , -4)$

4) Center: $(-7 , -1)$, Co-vertex: $(-6 , -1)$
Focus: $(-7 , -1 + 4\sqrt{3})$

5) Foci: $(8 , -3 + 2\sqrt{14})$, $(8 , -3 - 2\sqrt{14})$
Minor Axis Endpoints: $(13 , -3)$, $(3 , -3)$

6) Center: $(-6 , -7)$, Co-vertex: $(-1 , -7)$
Focus: $(-6 , -7 + 2\sqrt{14})$

7) Center: $(-1 , 0)$, Width: 6
Focus: $(-1 , 6\sqrt{2})$

8) Center: $(2 , 8)$, Vertex: $(14 , 8)$
Focus: $(2 + 4\sqrt{5} , 8)$

9) Vertices : $(7 , 2)$, $(-17 , 2)$
Foci: $(-5 + 8\sqrt{2} , 2)$, $(-5 - 8\sqrt{2} , 2)$

10) Center: $(5 , -2)$, Vertex: $(14 , -2)$
Co-vertex: $(5 , 4)$

Name : _____ Score : _____

Teacher : _____ Date : _____

Writing Ellipses Equations

Use the given information to write the standard form equation of the ellipse.

1) Foci: $(8 , -5 + \sqrt{105})$, $(8 , -5 - \sqrt{105})$

Co-vertices: $(12 , -5)$, $(4 , -5)$

$$\frac{(x - 8)^2}{16} + \frac{(y + 5)^2}{121} = 1$$

2) Vertices : $(-8 , 11)$, $(-8 , -9)$

Co-vertices: $(-3 , 1)$, $(-13 , 1)$

$$\frac{(x + 8)^2}{25} + \frac{(y - 1)^2}{100} = 1$$

3) Vertices : $(13 , -4)$, $(-11 , -4)$

Foci: $(1 + 3\sqrt{7} , -4)$, $(1 - 3\sqrt{7} , -4)$

$$\frac{(x - 1)^2}{144} + \frac{(y + 4)^2}{81} = 1$$

4) Center: $(-7 , -1)$, Co-vertex: $(-6 , -1)$

Focus: $(-7 , -1 + 4\sqrt{3})$

$$\frac{(x + 7)^2}{1} + \frac{(y + 1)^2}{49} = 1$$

5) Foci: $(8 , -3 + 2\sqrt{14})$, $(8 , -3 - 2\sqrt{14})$

Minor Axis Endpoints: $(13 , -3)$, $(3 , -3)$

$$\frac{(x - 8)^2}{25} + \frac{(y + 3)^2}{81} = 1$$

6) Center: $(-6 , -7)$, Co-vertex: $(-1 , -7)$

Focus: $(-6 , -7 + 2\sqrt{14})$

$$\frac{(x + 6)^2}{25} + \frac{(y + 7)^2}{81} = 1$$

7) Center: $(-1 , 0)$, Width: 6

Focus: $(-1 , 6\sqrt{2})$

$$\frac{(x + 1)^2}{9} + \frac{y^2}{81} = 1$$

8) Center: $(2 , 8)$, Vertex: $(14 , 8)$

Focus: $(2 + 4\sqrt{5} , 8)$

$$\frac{(x - 2)^2}{144} + \frac{(y - 8)^2}{64} = 1$$

9) Vertices : $(7 , 2)$, $(-17 , 2)$

Foci: $(-5 + 8\sqrt{2} , 2)$, $(-5 - 8\sqrt{2} , 2)$

$$\frac{(x + 5)^2}{144} + \frac{(y - 2)^2}{16} = 1$$

10) Center: $(5 , -2)$, Vertex: $(14 , -2)$

Co-vertex: $(5 , 4)$

$$\frac{(x - 5)^2}{81} + \frac{(y + 2)^2}{36} = 1$$