

Name : _____

Score : _____

Teacher : _____

Date : _____

Writing Ellipses Equations

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

1) Vertices : $(2, 13)$, $(2, -11)$
Co-vertices: $(7, 1)$, $(-3, 1)$

6) Foci: $(1, -5 + \sqrt{21})$, $(1, -5 - \sqrt{21})$
Major Axis Endpoints: $(1, 6)$, $(1, -16)$

2) Vertices : $(4, -8)$, $(-10, -8)$
Co-vertices: $(-3, -3)$, $(-3, -13)$

7) Vertices : $(0, 20)$, $(0, -4)$
Foci: $(0, 8 + 2\sqrt{35})$, $(0, 8 - 2\sqrt{35})$

3) Foci: $(-1, -2 + \sqrt{7})$, $(-1, -2 - \sqrt{7})$
Co-vertices: $(2, -2)$, $(-4, -2)$

8) Center: $(2, -8)$, Vertex: $(2, 2)$
Focus: $(2, -2)$

4) Center: $(-5, -7)$, Width: 24
Focus: $(-5 + 4\sqrt{5}, -7)$

9) Center: $(-5, 2)$, Vertex: $(-3, 2)$
Co-vertex: $(-5, 3)$

5) Center: $(1, 0)$, Width: 12
Focus: $(1 + 2\sqrt{5}, 0)$

10) Foci: $(4 + 2\sqrt{14}, -5)$, $(4 - 2\sqrt{14}, -5)$
Minor Axis Endpoints: $(4, 0)$, $(4, -10)$



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Writing Ellipses Equations

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

1) Vertices : (2 , 13) , (2 , -11)

Co-vertices: (7 , 1) , (-3 , 1)

$$\frac{(x - 2)^2}{25} + \frac{(y - 1)^2}{144} = 1$$

6) Foci: (1 , $-5 + \sqrt{21}$) , (1 , $-5 - \sqrt{21}$)

Major Axis Endpoints: (1 , 6) , (1 , -16)

$$\frac{(x - 1)^2}{100} + \frac{(y + 5)^2}{121} = 1$$

2) Vertices : (4 , -8) , (-10 , -8)

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

$$\frac{(x + 3)^2}{49} + \frac{(y + 8)^2}{25} = 1$$

7) Vertices : (0 , 20) , (0 , -4)

Foci: (0 , $8 + 2\sqrt{35}$) , (0 , $8 - 2\sqrt{35}$)

$$\frac{x^2}{4} + \frac{(y - 8)^2}{144} = 1$$

3) Foci: (-1 , $-2 + \sqrt{7}$) , (-1 , $-2 - \sqrt{7}$)

Co-vertices: (2 , -2) , (-4 , -2)

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

8) Center: (2 , -8) , Vertex: (2 , 2)

Focus: (2 , -2)

$$\frac{(x - 2)^2}{64} + \frac{(y + 8)^2}{100} = 1$$

4) Center: (-5 , -7) , Width: 24

Focus: ($-5 + 4\sqrt{5}$, -7)

$$\frac{(x + 5)^2}{144} + \frac{(y + 7)^2}{64} = 1$$

9) Center: (-5 , 2) , Vertex: (-3 , 2)

Co-vertex: (-5 , 3)

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

5) Center: (1 , 0) , Width: 12

Focus: ($1 + 2\sqrt{5}$, 0)

$$\frac{(x - 1)^2}{36} + \frac{y^2}{16} = 1$$

10) Foci: ($4 + 2\sqrt{14}$, -5) , ($4 - 2\sqrt{14}$, -5)

Minor Axis Endpoints: (4 , 0) , (4 , -10)

$$\frac{(x - 4)^2}{81} + \frac{(y + 5)^2}{25} = 1$$

