

Math Worksheets

Equation of Each Ellipse

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

- 1) Foci: (4, 0), (-4, 0); Co-vertices: (0, 3), (0, -3)
- 2) Vertices: (0, 7), (0, -7); Co-vertices: (2, 0), (-2, 0)
- 3) Vertices: (2, 3), (2, -9); Co-vertices: (6, -3), (-2, -3)
- 4) Foci: ($2\sqrt{6}$, 0), ($-2\sqrt{6}$, 0); Co-vertices: (0, 5), (0, -5)
- 5) Foci: ($-4, 3 + 2\sqrt{5}$), ($-4, 3 - 2\sqrt{5}$); Co-vertices: (0, 3), (8, 3)
- 6) Vertices: (8, 2), (-2, 2); Co-vertices: (2, 6), (2, -2)
- 7) Vertices: (11, 0), (-11, 0); Co-vertices: (0, 5), (0, -5)
- 8) Vertices: (19, -4), (-7, -4); Co-vertices: (6, 5), (6, -13)
- 9) Center: (2, 6); Vertex: ($2, 6 - \sqrt{150}$); Co-vertex: ($2 - \sqrt{14}, 6$)
- 10) Center: (5, -12); Vertex: (17, -12); Co-vertex: (5, -20)

 Identify the vertices, co-vertices, foci.

$$11) \frac{x^2}{225} + \frac{y^2}{81} = 1$$

$$15) \frac{(x+4)^2}{36} + \frac{(y-2)^2}{100} = 1$$

$$12) \frac{x^2}{82} + \frac{y^2}{15} = 1$$

$$16) \frac{(x-2)^2}{64} + \frac{(y-11)^2}{9} = 1$$

$$13) \frac{x^2}{64} + \frac{y^2}{25} = 1$$

$$17) \frac{x^2}{49} + \frac{(y-9)^2}{4} = 1$$

$$14) \frac{x^2}{16} + \frac{y^2}{121} = 1$$

$$18) \frac{x^2}{36} + \frac{(y-7)^2}{169} = 1$$

Answers of Worksheets

Equation of Each Ellipse

1) $\frac{x^2}{25} + \frac{y^2}{9} = 1$

2) $\frac{x^2}{4} + \frac{y^2}{49} = 1$

3) $\frac{(x-2)^2}{16} + \frac{(y+3)^2}{36} = 1$

4) $\frac{x^2}{49} + \frac{y^2}{25} = 1$

5) $\frac{(x+4)^2}{16} + \frac{(y-3)^2}{36} = 1$

6) $\frac{(x-3)^2}{25} + \frac{(y-2)^2}{16} = 1$

7) $\frac{x^2}{121} + \frac{y^2}{25} = 1$

8) $\frac{(x-6)^2}{169} + \frac{(y+4)^2}{9} = 1$

9) $\frac{(x-2)^2}{14} + \frac{(y-6)^2}{150} = 1$

10) $\frac{(x-5)^2}{144} + \frac{(y+12)^2}{64} = 1$

11) Vertices: (15, 0), (-15, 0); Co-vertices: (0, 9), (0, -9); Foci: (12, 0), (-12, 0)

12) Vertices: ($\sqrt{82}$, 0), ($-\sqrt{82}$, 0); Co-vertices: (0, $\sqrt{15}$), (0, $-\sqrt{15}$); Foci: ($\sqrt{67}$, 0), ($-\sqrt{67}$, 0)

13) Vertices: (8, 0), (-8, 0); Co-vertices: (0, 5), (0, -5); Foci: ($\sqrt{39}$, 0), ($-\sqrt{39}$, 0)

14) Vertices: (0, 11), (0, -11); Co-vertices: (4, 0), (-4, 0); Foci: (0, $\sqrt{105}$), (0, $-\sqrt{105}$)

15) Vertices: (-4, 12), (-4, -8); Co-vertices: (8, 2), (-4, 2); Foci: (-4, 10), (-4, -6)

16) Vertices: (10, 11), (-6, 11); Co-vertices: (2, 14), (2, 8); Foci: ($2 + \sqrt{55}$, 11), ($2 - \sqrt{55}$, 11)

17) Vertices: (7, 9), (-7, 9); Co-vertices: (0, 11), (0, 7); Foci: ($3\sqrt{5}$, 9), ($-3\sqrt{5}$, 9)

18) Vertices: (0, 20), (0, -6); Co-vertices: (6, 7), (-6, 7); Foci: (0, $7 + \sqrt{133}$), (0, $7 - \sqrt{133}$)