

Math Sheet

Name _____ Score _____ / 12 Teacher _____ Date _____

Eccentricity of Conic Sections

Find the exact eccentricity of each conic section.

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

2. $x = y^2 - 5$
e = _____

3. $\frac{(x-4)^2}{9} + \frac{(y-3)^2}{16} = 1$
e = _____

4. $(x-3)^2 + (y+4)^2 = 36$
e = _____

5. $\frac{(x+2)^2}{36} - \frac{(y-5)^2}{16} = 1$
e = _____

6. $x = 2 \cdot y^2 - 5$
e = _____

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Eccentricity of Conic Sections

Find the exact eccentricity of each conic section.

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

8. $(x+3)^2 + (y+5)^2 = 1$
e = _____

9. $\frac{(x-2)^2}{9} - \frac{(y-4)^2}{36} = 1$
e = _____

10. $x = -5(y-5)^2 + 1$
e = _____

11. $\frac{(x+4)^2}{16} + \frac{(y+4)^2}{25} = 1$
e = _____

12. $(x-3)^2 + (y+3)^2 = 9$
e = _____

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Eccentricity of Conic Sections

Answer Key

Find the exact eccentricity of each conic section.

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

Type: hyperbola

$$e = \frac{1}{3} \cdot \sqrt{10}$$

2. $x = y^2 - 5$

Type: parabola

$$e = 1$$

3. $\frac{(x-4)^2}{9} + \frac{(y-3)^2}{16} = 1$

Type: ellipse

$$e = \frac{1}{4} \cdot \sqrt{7}$$

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

Type: circle

$$e = 0$$

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

Type: hyperbola

$$e = \frac{1}{3} \cdot \sqrt{13}$$

6. $x = 2 \cdot y^2 - 5$

Type: parabola

$$e = 1$$

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Eccentricity of Conic Sections

Answer Key

Find the exact eccentricity of each conic section.

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

Type: ellipse

$$e = \frac{1}{3} \cdot \sqrt{5}$$

8. $(x+3)^2 + (y+5)^2 = 1$

Type: circle

$$e = 0$$

9. $\frac{(x-2)^2}{9} - 1 \cdot \frac{(y-4)^2}{36} = 1$

Type: hyperbola

$$e = \sqrt{5}$$

10. $x = -5 \cdot (y-5)^2 + 1$

Type: parabola

$$e = 1$$

11. $\frac{(x+4)^2}{16} + \frac{(y+4)^2}{25} = 1$

Type: ellipse

$$e = \frac{3}{5}$$

12. $(x-3)^2 + (y+3)^2 = 9$

Type: circle

$$e = 0$$