

Name: _____

Circle

Exercise 1: Identify the conic as a circle or an ellipse. Then find the center, radius, vertices, foci, and eccentricity of the conic (if applicable), and sketch its graph.

1) $\frac{x^2}{25} + \frac{y^2}{16} = 1$

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

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

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

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

6) $\frac{x^2}{64} + \frac{y^2}{28} = 1$

7) $\frac{(x+3)^2}{16} + \frac{(y-5)^2}{25} = 1$

8) $\frac{(x-4)^2}{12} + \frac{(y+3)^2}{16} = 1$

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

10) $(x+2)^2 + \frac{(y+4)^2}{1/4} = 1$

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

12) $\frac{(x-3)^2}{25/4} + \frac{(y-1)^2}{25/4} = 1$

13) $9x^2 + 4y^2 - 54x + 40y + 37 = 0$

14) $x^2 + y^2 - 2x + 4y - 31 = 0$

15) $9x^2 + 4y^2 + 36x - 24y + 36 = 0$

16) $x^2 + 5y^2 - 8x - 30y - 39 = 0$

17) $6x^2 + 2y^2 + 18x - 10y + 2 = 0$

18) $x^2 + 4y^2 - 6x + 20y - 2 = 0$

19) $3x^2 + y^2 + 18x - 2y - 8 = 0$

20) $x^2 + y^2 - 4x + 6y - 3 = 0$

21) $9x^2 + 9y^2 + 18x - 18y + 14 = 0$

22) $9x^2 + 25y^2 - 36x - 50y + 60 = 0$

23) $16x^2 + 25y^2 - 32x + 50y + 16 = 0$

24) $16x^2 + 16y^2 - 64x + 32y + 55 = 0$