

A) Identify the conic section as a circle, ellipse, or parabola.

B) Rewrite the equation in standard form.

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

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

1) circle-ellipse-parabola

$$\underline{(x-4)^2 = (y+3)}$$

2) circle-ellipse-parabola

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

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

4)  $25x^2 + 9y^2 - 225 = 0$

3) circle-ellipse-parabola

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

4) circle-ellipse-parabola

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

5)  $3y^2 + 12y - x + 1 = 0$

6)  $9x^2 + 25y^2 - 18x - 150y + 9 = 0$

5) circle-ellipse-parabola

$$3(y^2 + 4y + 4) = x - 1 + 12$$

$$\underline{(y+2)^2 = \frac{1}{3}(x+11)}$$

$$3(y+2)^2 = \frac{1}{3}(x+11)$$

6) circle-ellipse-parabola

$$\underline{\frac{(x-1)^2}{25} + \frac{(y-3)^2}{9} = 1}$$

$$7) x^2 + y^2 - 4x = 0$$

$$8) 3x^2 + y^2 - 12x + 12y + 45 = 0$$

7) ~~circle~~-ellipse-parabola

$$\underline{(x-2)^2 + y^2 = 4}$$

8) ~~circle~~-~~ellipse~~-parabola

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

$$9) \frac{1}{8}x^2 - \frac{1}{2}x - y + \frac{9}{2} = 0$$

$$10) x^2 + y^2 + 8x - 10y = 0$$

9) circle-ellipse-~~parabola~~

$$\underline{(x-2)^2 = 8(y-4)}$$

10) ~~circle~~-ellipse-parabola

$$\underline{(x+4)^2 + (y-5)^2 = 41}$$

$$11) -\frac{1}{2}y^2 + 3y - x + 4 = 0$$

$$12) x^2 + y^2 + 8x - 2y + 13 = 0$$

11) circle-ellipse-~~parabola~~

$$\underline{(y-3)^2 = -2(x-8.5)}$$

12) ~~circle~~-ellipse-parabola

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