

Given the following quadratic relations, determine which conic section it is and then rewrite the equation in the standard form for that shape

10. $25x^2 + 16y^2 + 200x + 192y + 576 = 0$

ellipse

$$25(x^2 + 8x + 16) + 16(y^2 + 6y + 9) = 576$$

$$\frac{(x+4)^2}{8} + \frac{(y+6)^2}{25} = 1$$

11. $x^2 + y^2 - 14x + 6y + 54 = 0$

circle

$$(x-7)^2 + (y+3)^2 = 4$$

12. $4x^2 - 25y^2 - 150y - 325 = 0$

hyperbola

$$\frac{x^2}{100} - \frac{(y+3)^2}{4} = 1$$

13. $5x^2 - 30x - y + 39 = 0$

parabola

$$y = 5(x-3)^2 - 6$$

14. $9x^2 + y^2 - 81 = 0$

ellipse

$$\frac{x^2}{9} + \frac{y^2}{81} = 1$$