

"What did the Russian call his pet rodent?"

Identify each conic section and rewrite the equation in standard form. Cross out the letter that matches with your answer. The remaining letters will allow you to figure out the joke.

1. $x^2 - y^2 + 4x - 2y - 5 = 0$

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

2. $x^2 + 3y^2 + 6x + 6 = 0$

F: $\left(x + \frac{1}{2}\right)^2 + (y - 3)^2 = 9$

3. $9x^2 - 16y^2 - 18x + 96y - 279 = 0$

C: $y + 3 = 2(x - 2)^2$

M: $(x - 4)^2 - (y + 4)^2 = 16$

4. $3x^2 + 3y^2 - 6x + 12y = 0$

B: $\frac{(x + 2)^2}{8} - \frac{(y + 1)^2}{8} = 1$

5. $4x^2 + 4y^2 + 4x - 24y + 1 = 0$

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

6. $12x = 2x^2 - y + 23$

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

E: $\frac{(x - 1)^2}{16} - \frac{(y - 3)^2}{9} = 1$

7. $x^2 - 4y^2 + 6x + 16y = 11$

U: $(x - 1)^2 + (y + 2)^2 = 5$

R: $(x - 1)^2 - (y + 2)^2 = 5$

8. $x^2 + 8x + y^2 = 2y$

W: $y - 5 = 2(x - 3)^2$

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

9. $3x^2 + 4y^2 + 8y = 8$

P: $(x + 4)^2 + (y - 1)^2 = 17$

O: $(x + 4)^2 + (y - 1)^2 = 9$

10. $9(x + 3)^2 = 9 + (y - 4)^2$

R: $(x + 3)^2 + y^2 = 3$

W E C U B L O F M P N R I A Y T

All mixed up — matching the conic to its standard form — form A for the parabola equations

Joke #8A

"What do you call a nutty dog in Australia?"

Identify each conic section and rewrite the equations in standard form. The answer to each problem will match a letter that will allow you to figure out the joke.

1. $x^2 + 2y^2 + 4x - 6 = 0$

2. $x^2 - y^2 - 2x + 6y - 9 = 0$

3. $7x^2 - 3y^2 - 28x + 12y - 5 = 0$

4. $2x^2 + 2y^2 + 4x - 8y = 0$

5. $4x^2 + 16x + y + 11 = 0$

6. $-x^2 + 3y^2 + 24y + 18 = 0$

7. $5x^2 + 3y^2 + 20x + 18y - 13 = 0$

8. $x^2 + 14x + y^2 = 6y$

9. $-3x^2 + 12x + 2y = 0$

N: $y = -4(x + 2)^2 + 5$

I: $\frac{(x-2)^2}{3} - \frac{(y-2)^2}{7} = 1$

G: $\frac{(x+2)^2}{12} + \frac{(y+3)^2}{20} = 1$

L: $(x+7)^2 + (y-3)^2 = 58$

O: $\frac{(x+2)^2}{10} + \frac{y^2}{5} = 1$

D: $y = \frac{3}{2}(x-2)^2 - 6$

E: $(x-1)^2 - (y+4)^2 = 1$

I: $\frac{(y+4)^2}{10} - \frac{x^2}{30} = 1$

N: $(x-1)^2 - (y-3)^2 = 1$

S: $\frac{(x+2)^2}{20} - \frac{y^2}{4} = 1$

G: $(x+1)^2 + (y-2)^2 = 5$

T: $(x-1)^2 + (y-2)^2 = 25$

R: $\frac{(x+2)^2}{6} + \frac{(y+3)^2}{10} = 1$

9 3 5 7 1 8 6 2 4

Answer: _____