

A P.I. R² Mini-Mystery

Who Killed Mr. V?

Directions: Solve each system of equations, then use your solutions to eliminate the suspects and solve the mystery.

$$\begin{cases} 2x + y - z = -4 \\ 3y + 4z = 32 \\ x - 2y + 3z = -15 \end{cases}$$

1. $x =$

2. $y =$

3. $z =$

$$\begin{cases} x - y + z = 13 \\ 2x + 3y - z = -26 \\ 3x - 2y + 2z = 27 \end{cases}$$

4. $x =$

5. $y =$

6. $z =$

$$\begin{cases} x + y + z = 1 \\ 3x - 2y + z = 24 \\ -2x - 3y - 2z = 7 \end{cases}$$

7. $x =$

8. $y =$

9. $z =$

$$\begin{cases} 3x - 2y + z = 36 \\ -4x - 3y - 2z = 15 \\ x + y + z = -7 \end{cases}$$

10. $x =$

11. $y =$

12. $z =$

$$\begin{cases} 2x - y + 3z = -1 \\ x + 2y + z = 24 \\ 3x - 2y + 4z = -10 \end{cases}$$

13. $x =$

14. $y =$

15. $z =$

WHO?
Ms. Scarlett 12
Mr. Green 8
Dr. Black -7
Mrs. Brown 2
Mrs. White -4
WHAT?
Candlestick 7
Leadpipe 11
Wrench 1
Rope 5
Poison -9
WHERE?
Dining Room 9
Living Room 4
Bedroom -11
Game Room -2
Library -5
Study 6
Media Room -8
Kitchen -1

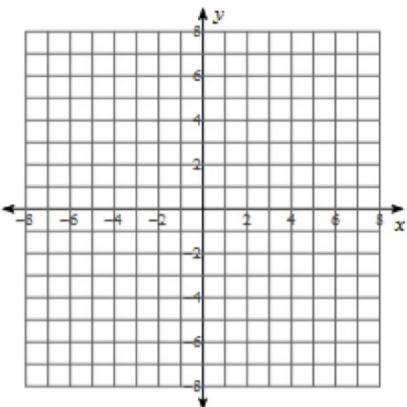
IT WAS (WHO)

WITH A (WHAT)

IN THE (WHERE)

Find the required information and graph the conic section:

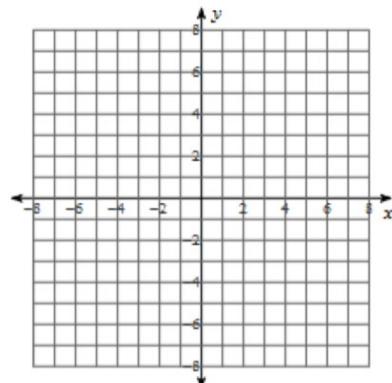
$$\frac{(x+2)^2}{25} + \frac{(y-4)^2}{4} = 1$$



Classify the conic section: _____ Center: _____

Vertices: _____ Foci: _____

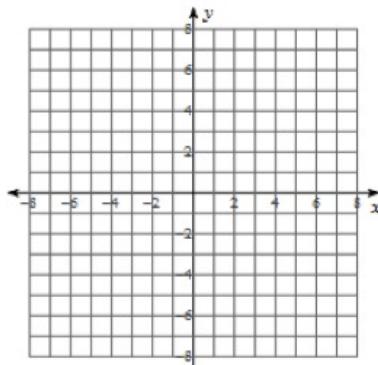
Find the required information and graph the conic section: $y = 2x^2 - 8x + 4$



Classify the conic section: _____ Vertex: _____

Focus: _____ Directrix: _____

Find the required information and graph: $7x^2 + 3y^2 - 42x + 6y - 39 = 0$

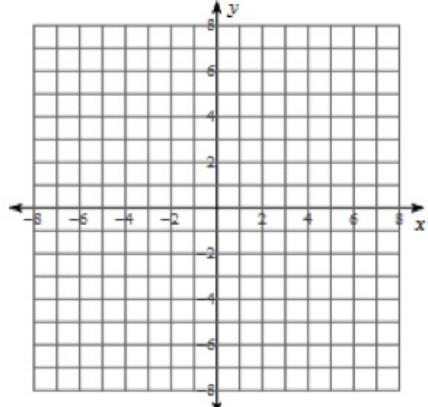


Classify the conic section: _____ Center: _____

Vertices: _____ Foci: _____

Find the required information and graph the conic section:

$$4y^2 + x - 32y + 68 = 0$$



Classify the conic section: _____ Vertex: _____

Focus: _____ Directrix: _____