

# Matrices

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Cramer's Rules

1

$$5x + 15y + z = 75$$

$$3x + 5y + z = 15$$

$$9x + y + 3z = 3$$

2

$$18x + 3y + z = 54$$

$$3x + 12y + 9z = 36$$

$$16x + y + 3z = 48$$

3

$$16x + 5y + 2z = 80$$

$$5x + 12y + 2z = 60$$

$$18x + 5y + 2z = 90$$

4

$$12x + 2y + 6z = 24$$

$$8x + 4y + 16z = 64$$

$$2x + y + 14z = 74$$

5

$$16x + y + 4z = 64$$

$$12x + y + 4z = 32$$

$$8x + y + 8z = 64$$

6

$$17x + 5y + z = 85$$

$$5x + y + 13z = 65$$

$$15x + 5y + z = 75$$

7

$$8x + y + 18z = 96$$

$$9x + y + 2z = 18$$

$$18x + 2y + z = 36$$

8

$$8x + 5y + 5z = 40$$

$$15x + 5y + 5z = 75$$

$$5x + 6y + 5z = 30$$

9

$$20x + 4y + 2z = 40$$

$$6x + 4y + 20z = 24$$

$$6x + 20y + z = 6$$

10

$$15x + 2y + z = 90$$

$$5x + y + 3z = 15$$

$$4x + 5y + 2z = 10$$

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## Cramer's Rules

1

$$\begin{aligned} 5x + 15y + z &= 75 \\ 3x + 5y + z &= 15 \\ 9x + y + 3z &= 3 \end{aligned} \quad \underline{(15, 3, -45)}$$

2

$$\begin{aligned} 18x + 3y + z &= 54 \\ 3x + 12y + 9z &= 36 \\ 16x + y + 3z &= 48 \end{aligned} \quad \underline{\left(\frac{35}{13}, \frac{19}{13}, \frac{15}{13}\right)}$$

3

$$\begin{aligned} 16x + 5y + 2z &= 80 \\ 5x + 12y + 2z &= 60 \\ 18x + 5y + 2z &= 90 \end{aligned} \quad \underline{\left(5, 5, \frac{-25}{2}\right)}$$

4

$$\begin{aligned} 12x + 2y + 6z &= 24 \\ 8x + 4y + 16z &= 64 \\ 2x + y + 14z &= 74 \end{aligned} \quad \underline{\left(\frac{9}{20}, \frac{-81}{10}, \frac{29}{5}\right)}$$

5

$$\begin{aligned} 16x + y + 4z &= 64 \\ 12x + y + 4z &= 32 \\ 8x + y + 8z &= 64 \end{aligned} \quad \underline{(8, -128, 16)}$$

6

$$\begin{aligned} 17x + 5y + z &= 85 \\ 5x + y + 13z &= 65 \\ 15x + 5y + z &= 75 \end{aligned} \quad \underline{\left(5, \frac{-5}{8}, \frac{25}{8}\right)}$$

7

$$\begin{aligned} 8x + y + 18z &= 96 \\ 9x + y + 2z &= 18 \\ 18x + 2y + z &= 36 \end{aligned} \quad \underline{(-78, 720, 0)}$$

8

$$\begin{aligned} 8x + 5y + 5z &= 40 \\ 15x + 5y + 5z &= 75 \\ 5x + 6y + 5z &= 30 \end{aligned} \quad \underline{(5, 5, -5)}$$

9

$$\begin{aligned} 20x + 4y + 2z &= 40 \\ 6x + 4y + 20z &= 24 \\ 6x + 20y + z &= 6 \end{aligned} \quad \underline{\left(2, \frac{-1}{3}, \frac{2}{3}\right)}$$

10

$$\begin{aligned} 15x + 2y + z &= 90 \\ 5x + y + 3z &= 15 \\ 4x + 5y + 2z &= 10 \end{aligned} \quad \underline{\left(\frac{13}{2}, -1, \frac{-11}{2}\right)}$$