

Matrices

Name: _____

Date: _____

Cramer's Rules

1

$$2x + 10y + 15z = 15$$

$$7x + 5y + 5z = 35$$

$$5x + 4y + 2z = 20$$

2

$$12x + 16y + 18z = 34$$

$$16x + 10y + 18z = 36$$

$$16x + 14y + 20z = 14$$

3

$$14x + 12y + 16z = 34$$

$$18x + 10y + 16z = 36$$

$$20x + 14y + 20z = 14$$

4

$$16x + y + 12z = 34$$

$$14x + 8y + 6z = 24$$

$$12x + 14y + z = 18$$

5

$$10x + 3y + 2z = 30$$

$$x + 15y + 3z = 45$$

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

6

$$11x + 4y + 2z = 22$$

$$4x + 12y + 2z = 24$$

$$16x + 4y + 2z = 32$$

7

$$12x + 6y + 8z = 34$$

$$6x + 10y + 8z = 36$$

$$16x + 4y + 6z = 14$$

8

$$12x + 3y + 6z = 36$$

$$6x + 2y + 14z = 28$$

$$15x + y + 2z = 30$$

9

$$x + 10y + 5z = 15$$

$$15x + 2y + 2z = 30$$

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

10

$$6x + 12y + 8z = 50$$

$$2x + 6y + 16z = 24$$

$$x + 11y + 3z = 33$$

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Cramer's Rules

1

$$\begin{aligned} 2x + 10y + 15z &= 15 \\ 7x + 5y + 5z &= 35 \\ 5x + 4y + 2z &= 20 \end{aligned} \quad \underline{\left(\frac{50}{9}, \frac{-28}{9}, \frac{7}{3} \right)}$$

2

$$\begin{aligned} 12x + 16y + 18z &= 34 \\ 16x + 10y + 18z &= 36 \\ 16x + 14y + 20z &= 14 \end{aligned} \quad \underline{(-169, -113, 215)}$$

3

$$\begin{aligned} 14x + 12y + 16z &= 34 \\ 18x + 10y + 16z &= 36 \\ 20x + 14y + 20z &= 14 \end{aligned} \quad \underline{(-59, -119, 143)}$$

4

$$\begin{aligned} 16x + y + 12z &= 34 \\ 14x + 8y + 6z &= 24 \\ 12x + 14y + z &= 18 \end{aligned} \quad \underline{\left(\frac{-14}{3}, \frac{14}{3}, \frac{26}{3} \right)}$$

5

$$\begin{aligned} 10x + 3y + 2z &= 30 \\ x + 15y + 3z &= 45 \\ x + 12y + 2z &= 24 \end{aligned} \quad \underline{\left(-2, \frac{-8}{3}, 29 \right)}$$

6

$$\begin{aligned} 11x + 4y + 2z &= 22 \\ 4x + 12y + 2z &= 24 \\ 16x + 4y + 2z &= 32 \end{aligned} \quad \underline{(2, 2, -4)}$$

7

$$\begin{aligned} 12x + 6y + 8z &= 34 \\ 6x + 10y + 8z &= 36 \\ 16x + 4y + 6z &= 14 \end{aligned} \quad \underline{\left(\frac{-9}{5}, \frac{-11}{5}, \frac{43}{5} \right)}$$

8

$$\begin{aligned} 12x + 3y + 6z &= 36 \\ 6x + 2y + 14z &= 28 \\ 15x + y + 2z &= 30 \end{aligned} \quad \underline{\left(\frac{18}{11}, 4, \frac{8}{11} \right)}$$

9

$$\begin{aligned} x + 10y + 5z &= 15 \\ 15x + 2y + 2z &= 30 \\ 5x + 2y + 2z &= 10 \end{aligned} \quad \underline{\left(2, \frac{13}{5}, \frac{-13}{5} \right)}$$

10

$$\begin{aligned} 6x + 12y + 8z &= 50 \\ 2x + 6y + 16z &= 24 \\ x + 11y + 3z &= 33 \end{aligned} \quad \underline{\left(\frac{19}{7}, \frac{19}{7}, \frac{1}{7} \right)}$$