

# Matrices

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

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

## Cramer's Rules

1

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

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

$$2x + 10y + z = 20$$

2

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

$$4x + 8y + 2z = 2$$

$$6x + 2y + 3z = 3$$

3

$$17x + y + 2z = 34$$

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

$$x + 17y + z = 17$$

4

$$18x + y + z = 18$$

$$9x + 7y + 2z = 126$$

$$9x + 7y + z = 63$$

5

$$17x + 3y + 2z = 51$$

$$7x + 4y + 3z = 12$$

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

6

$$3x + 2y + 6z = 1$$

$$4x + 2y + 8z = 4$$

$$4x + y + 2z = 8$$

7

$$3x + 6y + 3z = 54$$

$$12x + 6y + 3z = 108$$

$$3x + 12y + 3z = 4$$

8

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

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

$$x + 11y + z = 11$$

9

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

$$4x + 2y + z = 14$$

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

10

$$18x + y + 4z = 72$$

$$2x + 14y + 2z = 56$$

$$12x + y + 4z = 48$$

# Matrices

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## Cramer's Rules

1

$$\begin{aligned} 20x + y + 4z &= 20 \\ x + 2y + z &= 40 \\ 2x + 10y + z &= 20 \end{aligned} \quad \underline{\left( \frac{-28}{3}, \frac{4}{3}, 52 \right)}$$

2

$$\begin{aligned} 5x + 10y + 5z &= 5 \\ 4x + 8y + 2z &= 2 \\ 6x + 2y + 3z &= 3 \end{aligned} \quad \underline{(0, 0, 1)}$$

3

$$\begin{aligned} 17x + y + 2z &= 34 \\ 2x + y + 2z &= 4 \\ x + 17y + z &= 17 \end{aligned} \quad \underline{\left( 2, \frac{10}{11}, \frac{-5}{11} \right)}$$

4

$$\begin{aligned} 18x + y + z &= 18 \\ 9x + 2y + 2z &= 36 \\ 9x + 7y + z &= 63 \end{aligned} \quad \underline{\left( 0, \frac{15}{2}, \frac{21}{2} \right)}$$

5

$$\begin{aligned} 17x + 3y + 2z &= 51 \\ 7x + 4y + 3z &= 12 \\ 10x + 2y + z &= 5 \end{aligned} \quad \underline{(5, -56, 67)}$$

6

$$\begin{aligned} 3x + 2y + 6z &= 1 \\ 4x + 2y + 8z &= 4 \\ 4x + y + 2z &= 8 \end{aligned} \quad \underline{(3, -4, 0)}$$

7

$$\begin{aligned} 3x + 6y + 3z &= 54 \\ 12x + 6y + 3z &= 108 \\ 3x + 12y + 3z &= 4 \end{aligned} \quad \underline{\left( 6, \frac{-25}{3}, \frac{86}{3} \right)}$$

8

$$\begin{aligned} 11x + 4y + 2z &= 22 \\ 2x + y + 2z &= 4 \\ x + 11y + z &= 11 \end{aligned} \quad \underline{\left( \frac{12}{7}, \frac{6}{7}, \frac{-1}{7} \right)}$$

9

$$\begin{aligned} 5x + 2y + z &= 10 \\ 4x + 2y + z &= 14 \\ 9x + y + 2z &= 18 \end{aligned} \quad \underline{(-4, 2, 26)}$$

10

$$\begin{aligned} 18x + y + 4z &= 72 \\ 2x + 14y + 2z &= 56 \\ 12x + y + 4z &= 48 \end{aligned} \quad \underline{\left( 4, \frac{32}{9}, \frac{-8}{9} \right)}$$