

Math 152 Ch. 12 Test

1. Solve the system by substitution method $\begin{cases} 2x - y = -21 \\ 4x + 5y = 7 \end{cases}$

2. Solve the system by addition method $\begin{cases} 2y - 3x = -13 \\ 3x - 17 = 4y \end{cases}$

3. How much of a 40% antifreeze solution must a mechanic mix with an 80% antifreeze solution if 20 gallons of a 50% antifreeze solution are needed?

4. Solve the system $\begin{cases} 2a = 2 - 3b - c \\ 4a + 6b + 2c - 5 = 0 \\ a + c = 3 + 2b \end{cases}$

5. Solve the system using matrices $\begin{cases} 2x + y - 3z = -1 \\ 3x - 2y - z = -5 \\ x - 3y - 2z = -12 \end{cases}$

6. Evaluate the determinant $\begin{vmatrix} 1 & -2 & 3 \\ -4 & 0 & -2 \\ 3 & 2 & -1 \end{vmatrix}$

7. Use Cramer's rule to solve the system $\begin{cases} 3x + 4y = 10 \\ 2x - 3y = 1 \end{cases}$