

Name Key

Date _____ Pd _____

CYU 1.4 Solving 3 Variable Systems

Use when you get it right all by yourself
S Use when you did it all by yourself, but made a silly mistake
H Use when you could do it alone with a little help from teacher or peer
G Use when you completed the problem in a group
X Use when a question was attempted but wrong (get help)
N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Systems solutions'			
Substitution & Elimination			

$$\begin{array}{l} 1 \quad (x + y + z = 3) - 3 \\ 2 \quad 1. -x + 3y + 2z = -8 \\ 3 \quad \quad \quad x = 4z \end{array}$$

$$3) \quad x = 4(1) = 4$$

x = 4

$$\begin{array}{l} 1) -3x - 3y - 3z = -9 \\ 2) -x + 3y + 2z = -8 \\ \hline 4) -4x - z = -17 \\ 3) \quad x - 4z = 0 \quad (4) \end{array}$$

$$\begin{array}{l} -4x - z = -17 \\ 4x - 16z = 0 \\ \hline -17z = -17 \\ \hline z = 1 \end{array}$$

$$1) \quad 4 + y + 1 = 3$$

$$5 + y = 3$$

y = -2

(4, -2, 1)

$$\begin{array}{l} 1 \quad (2) \quad x + y + z = 2 \quad (-1) \\ 2 \quad 2. \quad 2x - 3y + z = 11 \\ 3 \quad -3x + 2y - 2z = -13 \end{array}$$

$$\begin{array}{l} 1) -x - y - z = -2 \\ 2) 2x - 3y + z = 11 \\ \hline 4) x - 4y = 9 \end{array}$$

$$\begin{array}{l} 3) -3x + 2y - 2z = -13 \\ 1) 2x + 2y + 2z = 4 \\ \hline 5) -x + 4y = -9 \end{array}$$

$$\begin{array}{l} 4) x - 4y = 9 \\ 5) -x + 4y = -9 \\ \hline 0 = 0 \quad \checkmark \end{array}$$

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$$\begin{array}{l} (-2) \quad 1 \quad x + 4y - 2z = 3 \\ 2 \quad 3. \quad x + 3y + 7z = 1 \quad (-1) \\ 3 \quad 2x + 9y - 13z = 2 \end{array}$$

$$\begin{array}{l} 1) x + 4y - 2z = 3 \\ 2) -x - 3y - 7z = -1 \\ \hline 4) y - 9z = 2 \end{array}$$

$$\begin{array}{l} 3) 2x + 9y - 13z = 2 \\ 2) -2x - 6y - 14z = -2 \\ \hline 5) 3y - 27z = 0 \end{array}$$

$$4) y - 9z = 2 \quad (-3)$$

$$\begin{array}{l} 4) 3y + 27z = -6 \\ 5) 3y - 27z = 0 \\ \hline 0 = -6 \quad X \end{array}$$

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$$\begin{array}{l} 1) \quad x - y + 3z = 6 \\ 2) (-2) \quad x - 2y = 5 \quad (-1) \\ 3) \quad 2x - 2y + 5z = 9 \end{array}$$

$$\begin{array}{l} 1) \quad x - y + 3z = 6 \\ 2) \quad -x + 2y + 0z = -5 \\ \hline 4) \quad y + 3z = 1 \quad (-2) \end{array}$$

$$\begin{array}{l} 3) \quad 2x - 2y + 5z = 9 \\ 2) \quad -2x + 4y + 0z = -10 \\ \hline 5) \quad 2y + 5z = -1 \end{array}$$

$$\begin{array}{l} 4) \quad 2y - 6z = -2 \\ 5) \quad 2y + 5z = -1 \\ \hline -z = -3 \\ \boxed{z = 3} \end{array}$$

$$\begin{array}{l} 4) \quad y + 3(3) = 1 \\ y + 9 = 1 \\ \boxed{y = -8} \end{array}$$

$$\begin{array}{l} 1) \quad x - (-8) + 3(3) = 6 \\ x + 8 + 9 = 6 \\ x + 17 = 6 \\ \boxed{x = -11} \end{array}$$

$$\boxed{(-11, -8, 3)}$$

$$\begin{array}{l} 1) \quad x + 2z = 4 \\ 2) \quad x + y + z = 6 \quad (-3) \\ 3) \quad 3x + 3y + 4z = 28 \end{array}$$

$$\begin{array}{l} 2) \quad -3x - 3y - 3z = -18 \\ 3) \quad 3x + 3y + 4z = 28 \\ \hline \boxed{z = 10} \end{array}$$

$$\boxed{(-16, 3, 10)}$$

$$\begin{array}{l} 1) \quad x + 2(10) = 4 \\ x + 20 = 4 \\ \boxed{x = -16} \end{array}$$

$$\begin{array}{l} 2) \quad -16 + y + 10 = 6 \\ -6 + y = 6 \\ \boxed{y = 12} \end{array}$$

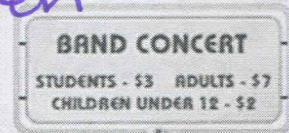
6. A school band performs a spring concert for a crowd of 600 people. The revenue for the concert is \$3150. There are 150 more adults at the concert than students. How many of each type of ticket are sold?

$x = \text{students}$ $y = \text{adults}$ $z = \text{children}$

$$\begin{array}{l} x + y + z = 600 \\ 3x + 7y + 2z = 3150 \\ y = x + 150 \end{array}$$

$$(200, 350, 50)$$

200 students, 350 adults, & 50 children



CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

