

Bell Work

4/27/2015

If $\textcircled{3} \textcircled{} \textcircled{} \triangle = 16$
and $\textcircled{} \textcircled{} \triangle = 13$

What is the value of $\textcircled{3}$ and \triangle ??

Please get out your colored papers from last week, we are going to finish going over the blue one.

3. Equations:

$2x + 2y = 50$

$2x + y = 42$

$y + 2z = 18$

Drawing:

$\square\square\cancel{8}\cancel{8} = 50$

$\square\square\cancel{0} = 42$

$\cancel{8}\triangle\triangle = 18$

$x = \underline{17}$

$y = \underline{8}$

$z = \underline{5}$

$$\begin{array}{r} \cancel{\square}\cancel{\square}\cancel{0} = 50 \\ \cancel{\square}\cancel{\square}\cancel{0} = 42 \\ \hline 0 = 8 \end{array}$$

$$\begin{array}{l} \underbrace{\boxed{17} \boxed{17}}_{34} + 16 = 50 \\ 34 + 16 = 50 \end{array}$$

4. Equations:

$$3y + 3z = 54$$

$$x + y + z = 24$$

$$3y + x = 15$$

$$x = \underline{6}$$

$$y = \underline{3}$$

$$z = \underline{15}$$

Drawing:

Handwritten work showing the solution of the system of equations using substitution and elimination. The equations are written in red and green ink.

Red equations:

- $000\Delta\Delta\Delta = 54$
- $\square 0\Delta = 24$
- $000\square = 15$

Green equations:

- $000\Delta\Delta\Delta = 54$
- $\div 3 \rightarrow 3\Delta = 18$ (circled in blue)
- $000\square = 15$
- $0006 = 15$
- $9 - 6 - 6$
- $000 = 9$
- $0 = 3$
- $\square 0\Delta = 24$
- $\square 18 = 24$
- $\square = 6$ (circled in green)

5. Would the value $x = 8$ make the following equations true *simultaneously*? Explain why or why not.

$$\begin{aligned} x + 2y + 3z &= 100 \\ 2y + 3z &= 90 \end{aligned}$$

$$\begin{array}{r} 8 + 2y + 3z = 100 \\ - \quad 2y + 3z = 90 \\ \hline 8 \neq 10 \end{array}$$

No, it doesn't work.

See work

6. Would the value $z = -9$ make the following equations true *simultaneously*? Explain why or why not.

$$\begin{aligned} x + y + z &= 1 \\ x + y &= 10 \end{aligned}$$

$$\begin{array}{r} x + y - 9 = 1 \\ - \quad x + y = 10 \\ \hline -9 = -9 \checkmark \end{array}$$

Yes it does.

See work

7. Is $y = 3$ a possible solution to the following system of equations? Explain why or why not.

$$\begin{aligned} x + 2y + z &= 28 \\ 3x + 3z &= 60 \end{aligned}$$

$$\begin{array}{r} x + 2(3) + z = 28 \\ 3x + 3z = 60 \end{array} \xrightarrow{\text{not true}} 3x + 3z = 60$$

NO

$$\begin{array}{r} x + 6 + z = 28 \\ -6 \quad -6 \\ \hline x + z = 22 \end{array} \quad \begin{array}{r} 3(x+z) = 3(22) \\ 3x + 3z = 66 \end{array}$$

8. After 3 weeks of saving up your allowances, you and your sister have \$90 altogether. The next week, you two were able to save \$55 because your grandma gave you two some extra cash on top of the regular allowance. How much did grandma give you? Show work.