Three Letters: Cancel the Same One Twice

SY12-V2 · storyboard · SY12 Three equations, three letters. Read each picture with its sentences.

Picture 1

$$2x + 2z = 10$$ first + second: y cancels

$$3x = 9$$ second + third: y cancels again

$$\boxed{x = 3}$$

$$\boxed{6 + 2z = 10, \quad z = 2}$$ back in

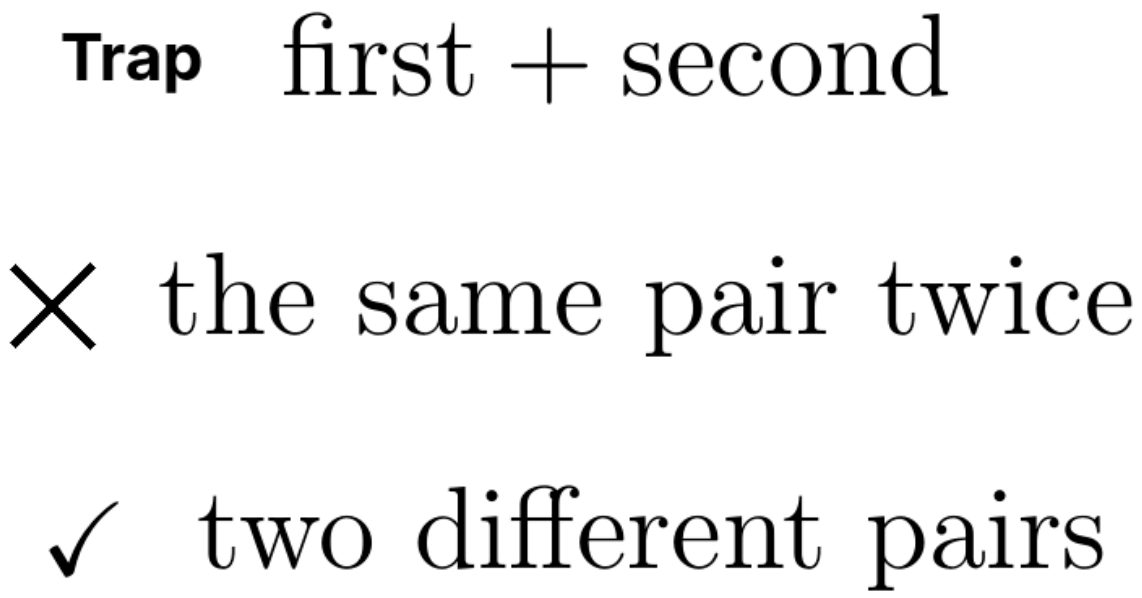
$$\boxed{3 + y + 2 = 6, \quad y = 1}$$ the third letter

$$3 - 1 + 2 = 4, \quad 6 + 1 - 2 = 5$$

check the others

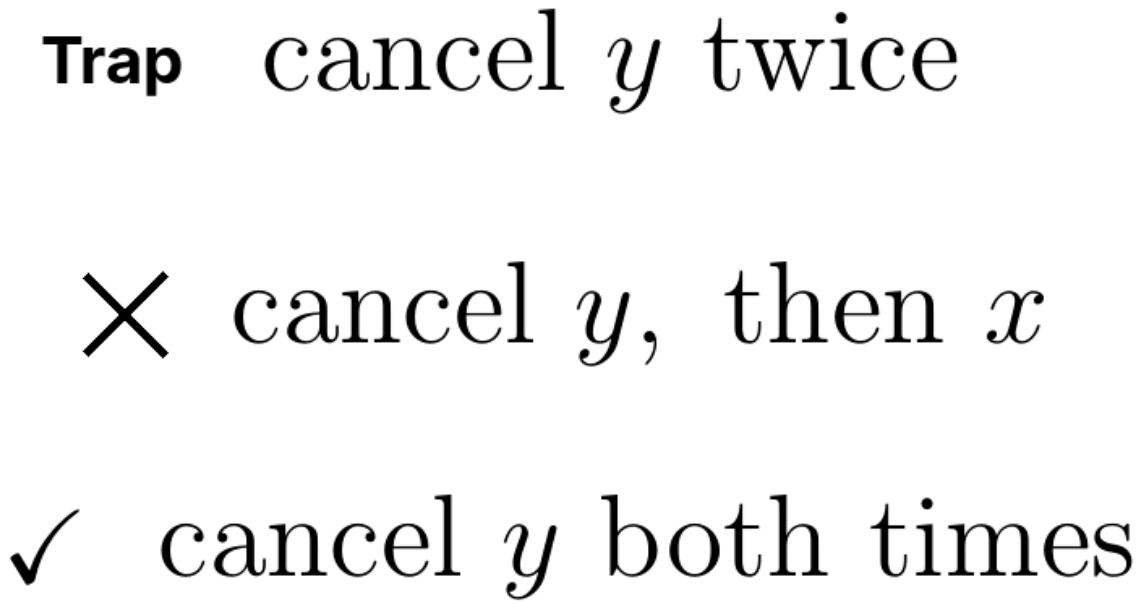
1. Solve x + y + z = 6, x − y + z = 4 and 2x + y − z = 5.
2. Add the first two equations: y cancels, and 2x + 2z = 10.
3. Now add the second and the third, a different pair: y cancels again, and so does z.
4. 3x = 9.
5. So x = 3.
6. Back in: 6 + 2z = 10, so z = 2.
7. And the third letter: 3 + y + 2 = 6, so y = 1.
8. The triple is three, one, two.
9. Check the others: three minus one plus two is four, and six plus one minus two is five.

Picture 2



10. Watch for the trap: using the same pair twice.
11. That gives the same equation again.
12. Use a different pair.

Picture 3



13. And don't cancel different letters: cancel the same letter both times, so the pair has the same two letters.