

SUBTRACTION PROPERTY OF EQUALITY

If equal amounts are _____ from the expressions on each side of an equation, the expressions remain equal.

Use a tile model to solve each equation for the unknown variable.

1. $x + 5 = 9$ 2. $a + 1 = 5$

x ~~AAAAA~~ = $++++$
~~AAAAA~~

$x = \underline{4}$ $a = \underline{\quad}$

CHECK $\underline{4} + 5 = 9 \checkmark$ CHECK $\underline{\quad} + 1 = 5$

3. $y + -2 = -5$ 4. $b + -2 = -4$

$y = \underline{\quad}$ $b = \underline{\quad}$

CHECK $\underline{\quad} + -2 = -5$ CHECK $\underline{\quad} + -2 = -4$

5. $z + -1 = 6$ 6. $c + 1 = 2$

$z = \underline{\quad}$ $c = \underline{\quad}$

CHECK $\underline{\quad} + -1 = 6$ CHECK $\underline{\quad} + 1 = 2$

Be sure your solution matches your picture!

ADDITION PROPERTY OF EQUALITY

If equal amounts are _____ to the expressions on each side of an equation, the expressions remain equal.

7. $x - 5 = 3$

8. $d - 1 = -1$

add +5 to both sides →

$x = 8$

CHECK $8 - 5 = 3$ ✓

$d = \underline{\hspace{2cm}}$

CHECK $\underline{\hspace{2cm}} - 1 = -1$

9. $y - 3 = 9$

10. $e - 1 = -3$

$y = \underline{\hspace{2cm}}$

CHECK $\underline{\hspace{2cm}} - 3 = 9$

$e = \underline{\hspace{2cm}}$

CHECK $\underline{\hspace{2cm}} - 1 = -3$

11. $z - 7 = -4$

12. $f - 8 = -12$

$z = \underline{\hspace{2cm}}$

CHECK $\underline{\hspace{2cm}} - 7 = -4$

$f = \underline{\hspace{2cm}}$

CHECK $\underline{\hspace{2cm}} - 8 = -12$

13. $z - 8 = -2$

14. $f - 7 = -3$

$z = \underline{\hspace{2cm}}$

CHECK $\underline{\hspace{2cm}} - 8 = -2$

$f = \underline{\hspace{2cm}}$

CHECK $\underline{\hspace{2cm}} - 7 = -3$

Does each solution match the picture?