

Using a letter or word for the unknown ($a + 3 = 10$)

WHAT THIS LESSON TEACHES

A letter such as a , n or m is just a name for the number we do not know yet. It works exactly like the box we used before, so we find the number that keeps both sides equal.

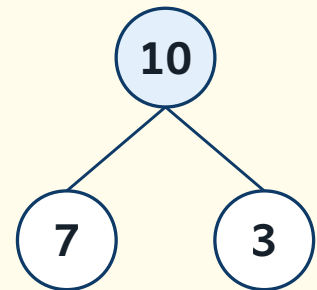
→ In $a + 5 = 12$, the letter a stands for 7 because $7 + 5 = 12$.

→ Swap a for 7: $7 + 5 = 12$. Both sides are 12, so it balances.

MODEL THIS ON THE BOARD

FIND A IN $A + 3 = 10$

- ① The letter a stands for the missing part in the bond.
- ② What number with 3 makes the whole 10? That number is 7.
- ③ Check: $7 + 3 = 10$, so $a = 7$.



DISCUSSION STARTER

REFLECT Do you prefer a box or a letter for the unknown — and why?

ANSWER KEY

a) 7

b) 10

Q1: 7

a) Always — The letter names the exact number needed to balance the pans.

b) Always — $7 + 5 = 12$, so a is 7.

c) Never — The name does not matter, the hidden number stays the same.

d) Sometimes — In $n - 4 = 6$ the value 10 is biggest, but in $a + 5 = 12$ the value 7 is not.

EXTENSION SHEET · STRETCH ANSWERS

S1: $x = 360$

S2: $x = 23$

S3: $x = 168$

S4: $x = 22$

S5: $x = 27$