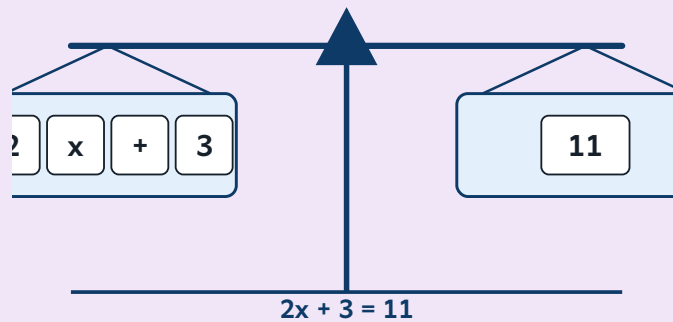


BEAM BALANCE FOR $2x + 5 = 13$

- 1 The left pan holds $2x + 5$ and the right pan holds 13.
- 2 Take 5 off both pans so the beam stays level: $2x = 8$.
- 3 Share the 8 equally across the two x-blocks: $x = 4$.

WARM-UP

Keep both pans of each balance scale level while you peel back the operations.



1. On the first scale put $2x + 3$ on the left pan and 11 on the right, then take 3 from both pans
2. On the second scale show $4x + 2 = 14$ and remove 2 from each pan to leave $4x$ balanced with 12
3. On the third scale set $3x - 1$ against 8 and add 1 to both pans before sharing

PRACTICE

- 1 In a board-game round twice your token score plus 9 bonus points makes 27. Find the token score x .
- 2 Four equal stacks of play coins plus 6 loose coins total 30 coins. How many coins x are in each stack?
- 3 Five identical dice scores plus a bonus of 4 points give a total of 29 in a dice race. What is each die score x ?

? ALWAYS, SOMETIMES, NEVER

Always, sometimes or never true? Write A, S or N.

- | | |
|--|--|
| <p>a. To solve $2x + 3 = 11$ you first subtract 3 from both sides <input type="text"/></p> <p>b. A two-step equation is solved by undoing multiplication before undoing addition <input type="text"/></p> | <p>c. After undoing the added number in $4x + 2 = 14$ you divide both sides by 4 <input type="text"/></p> <p>d. In $2x + 3 = 11$, halving 11 first gives the correct value of x. <input type="text"/></p> |
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