



Solving $x + p = q$

Undo the addition

- Today: solve equations where something is added to x — and check every answer.

$$x + 7 = 12$$

- What do you do to get x by itself?

Turn & talk: add 7, or subtract 7?

Use the **INVERSE**, on **BOTH** sides

- The equation adds 7 $\rightarrow$ you subtract 7.
- Whatever you do to one side, do to the other. That keeps it balanced.

$$\mathbf{x + 7 = 12 \rightarrow x = 5}$$

- $x + 7 - 7 = 12 - 7$
- $x = 5$
- Check: $5 + 7 = 12$ ✓

Adding 7 again gives 19 — the check catches it instantly.

Always check

- Put your answer back into the ORIGINAL equation.
- If both sides match, you are right. If not, you probably used the wrong operation.

A check is thirty seconds. A wrong answer is permanent.

Your turn

- Solve $x + 15 = 40$, then check it.
- Thumbs up when you have both.

Zero is a real answer

- $x + 13 = 13 \rightarrow x = 0$
- Check: $0 + 13 = 13$ ✓

Don't reject an answer just because it looks strange.

Now you

- → In-class practice sheet