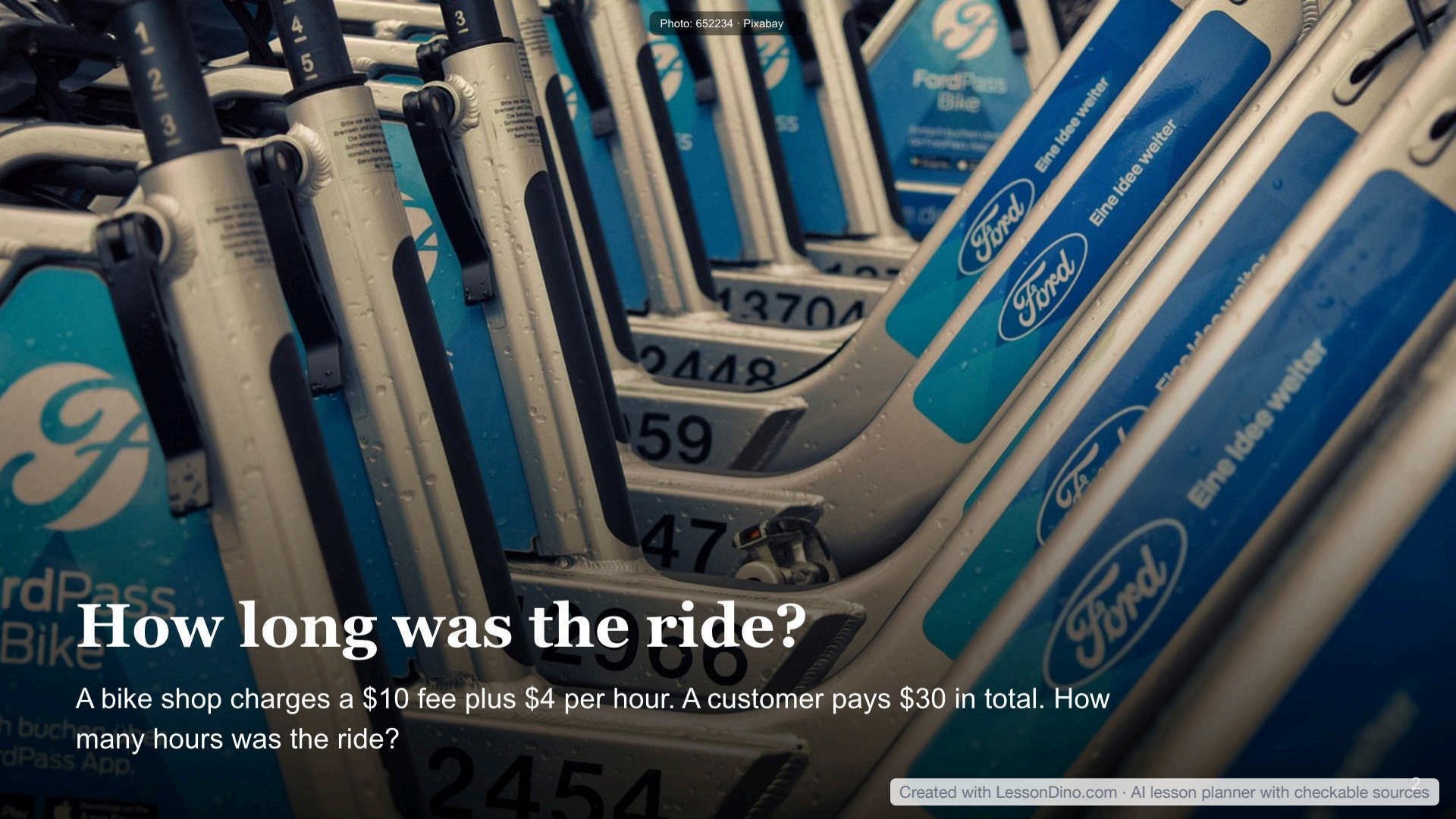
From Words to Equations

Solving px + q = r and p(x + q) = r | Grade 7 - 60 min



Created with LessonDino.com · AI lesson planner with checkable sources



How long was the ride?

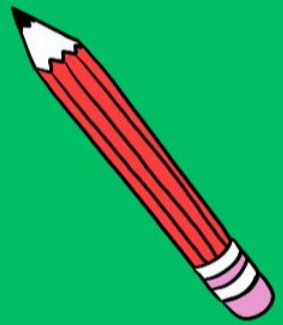
A bike shop charges a $10 fee plus $4 per hour. A customer pays $30 in total. How many hours was the ride?

Created with LessonDino.com · AI lesson planner with checkable sources

$a^2+b^2=c^2$

From Story to Check

Read story and name unknown → Write equation with x → Solve with inverse operations → Check answer in story

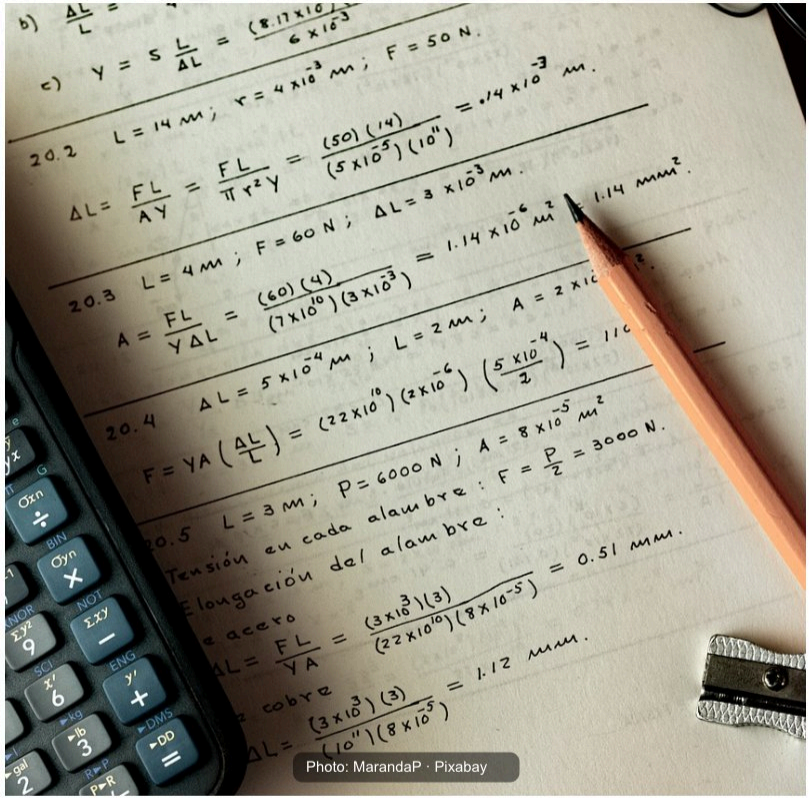


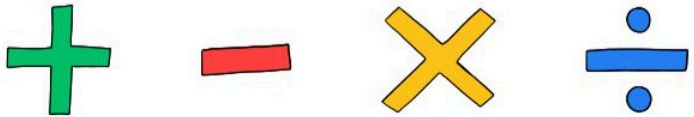
Created with LessonDino.com · AI lesson planner with checkable sources

DID YOU KNOW?

The hard part is not solving – it's translating.

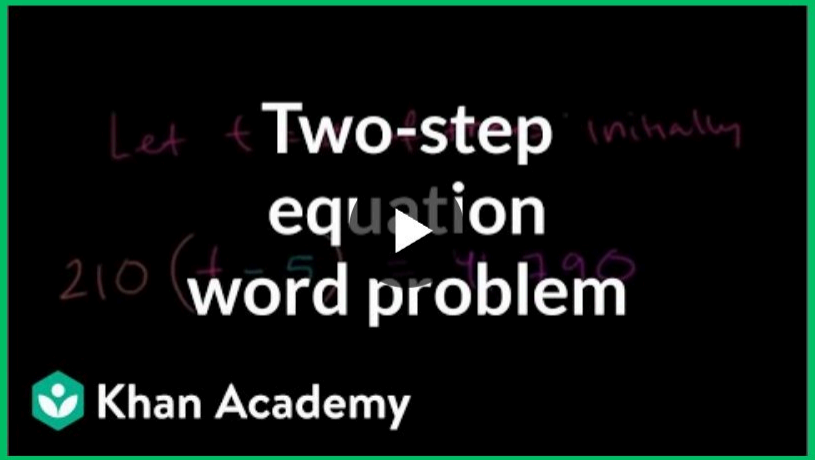
Once the equation is written down, you already know how to solve it.





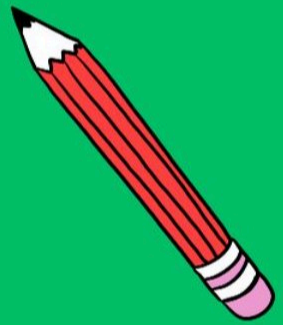
$a^2+b^2=c^2$

Watch: A Real Story Becomes px + q = r



▶ 0:00 – 5:00

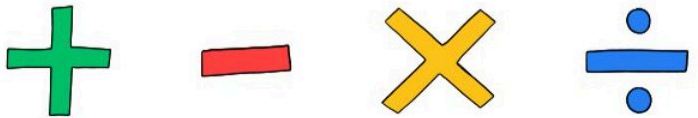
- Spot how the unknown becomes x with units
- Listen for is means = and times means multiply



Created with LessonDino.com · AI lesson planner with checkable sources

Your 4-Step Solver

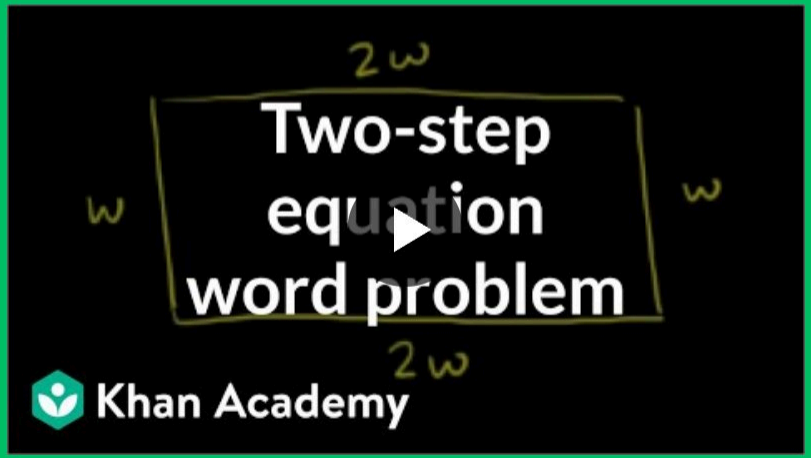
1. Name x: unknown quantity with units
2. Translate: build px+q=r or p(x+q)=r
3. Solve: undo operations in reverse order
4. Check: put answer back in story



Created with LessonDino.com · AI lesson planner with checkable sources

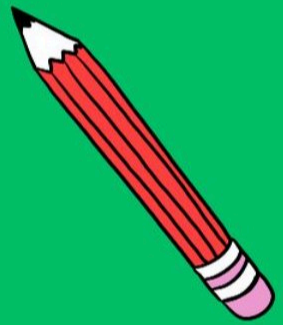
$a^2+b^2=c^2$

Watch: Solve It All the Way



▶ 0:00 – 2:02

- Track the two undo steps in order
- See how the answer is checked in words



Created with LessonDino.com · AI lesson planner with checkable sources

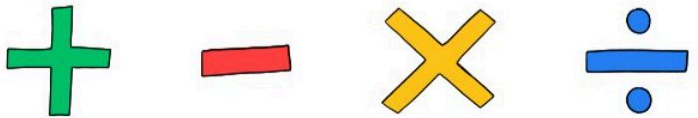
Your task

In pairs, write equations for two stories, then solve and check them in words.

1. A: 4 notebooks at $x each + $3.50 pen = $15.50. Find x.
2. B: 2 deals at $(x + $1.75 drink) = $11.50. Find x.
3. Check each answer back in the story words.

10 min

In pairs



Created with LessonDino.com · AI lesson planner with checkable sources

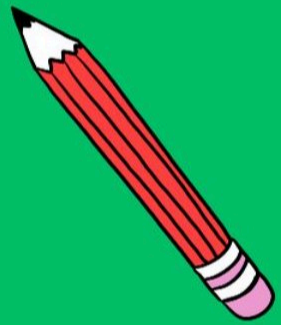
$a^2+b^2=c^2$

DID YOU KNOW?

Great solvers ask: Does this make sense?

Plug your answer back into the story words, not just the equation, to check it.



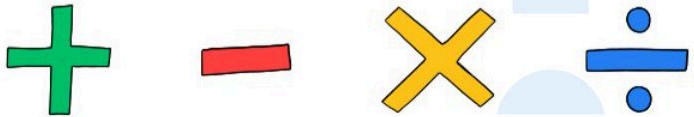


Created with LessonDino.com · AI lesson planner with checkable sources

Think, pair, share

Is '5 less than a number is 12' written as 5 - x = 12 or x - 5 = 12? Why does order matter?





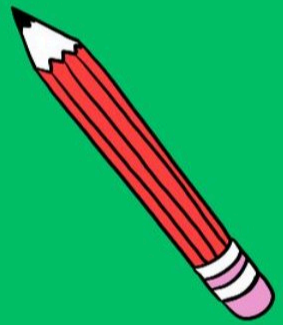
$a^2+b^2=c^2$

True or false?

2x + 3 = 11 gives x = 4.

2(x + 3) = 14 is the same as 2x + 3 = 14.

For 1.5x + 2 = 8, x = 4.



Created with LessonDino.com · AI lesson planner with checkable sources