



# Writing & solving equations

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Translate meaning, not word order

- Today: turn a sentence into an equation, solve it, and check it.

## **“5 less than 3 times a number is 20”**

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- Write the equation.

**Turn & talk:  $5 - 3x = 20$ , or  $3x - 5 = 20$ ?**

## “A less than B” means $B - A$

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- ‘3 times a number’  $\rightarrow 3x$
- ‘5 less than’ that  $\rightarrow 3x - 5$

**The phrase REVERSES the order you read it in.**

# Solve by undoing, in reverse

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- $3x - 5 = 20 \rightarrow \text{add } 5 \rightarrow 3x = 25 \rightarrow \text{divide by } 3 \rightarrow x = 8\frac{1}{3}$
- Addition and subtraction first. Then multiplication and division.

# Always check

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- $3(8\frac{1}{3}) = 25$ , and  $25 - 5 = 20$ . Correct.
- Ten seconds. Catches most errors.

# Your turn

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- A taxi charges \$12 plus \$5 per mile. A ride cost \$47. How far?
- Thumbs up when you have it.

# Fixed once, or every time?

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- The \$12 is charged ONCE → it stands alone.
- The \$5 repeats PER MILE → it attaches to m.

**$12 + 5m = 47$ , not  $12m + 5 = 47$ .**

# Now you

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- → In-class practice sheet