Tidying Up Algebra

Collecting like terms to keep it equivalent



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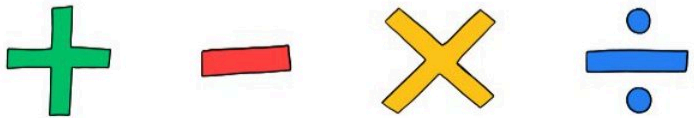
Today we will...

WE ARE LEARNING TO

- Recognise terms and like terms
- Collect like terms to simplify

SUCCESS LOOKS LIKE

- ✓ I can spot like terms
- ✓ I can simplify to an equivalent expression



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

Key words

📦

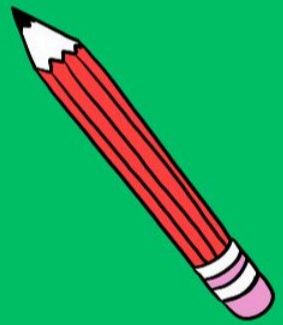
term

A single part split by + or -.

🔢

coefficient

The number in front of a letter.



👯

like terms

Same letters with same powers.

✨

simplify

Rewrite shorter with same value.

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Like or not like?

✅

3x and 5x

Both x-terms, combine to 8x.

✅

4y and -3y

Both y-terms, combine to y.

❌

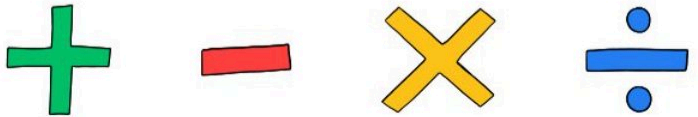
3x and 2y

Different letters, stay separate.

❌

2x and $3x^2$

Powers differ, stay separate.



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

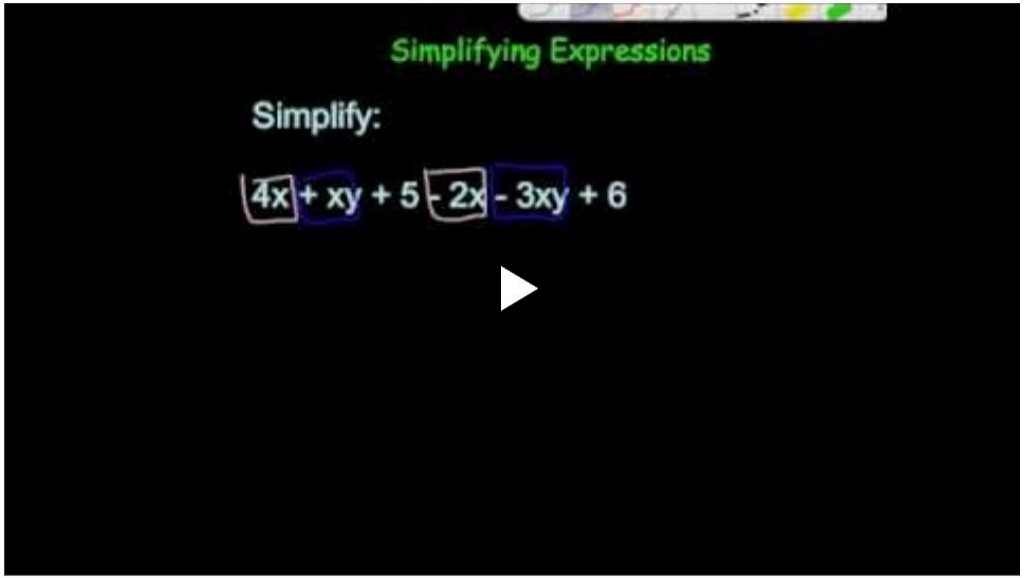
Think, pair, share

A student says 3x + 2y = 5xy. Are they right? Why?



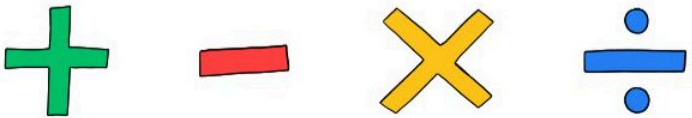
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Watch: Collecting like terms



▶ 0:00 – 3:24

- Spot how x-terms and y-terms group
- Listen for why value stays the same

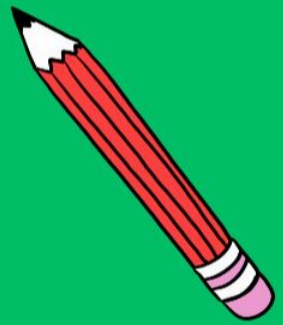


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$a^2+b^2=c^2$

How to collect like terms

1. Underline terms with same letters
2. Move like terms together with their sign
3. Add or subtract the coefficients
4. Write tidy answer, check nothing matches



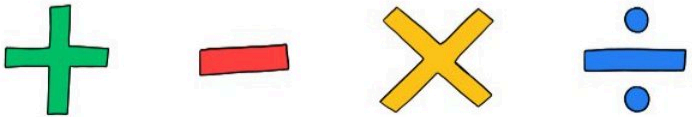
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Watch again: See it clearly



▶ 0:00 – 4:22

- How colours show like terms
- How number terms combine together



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

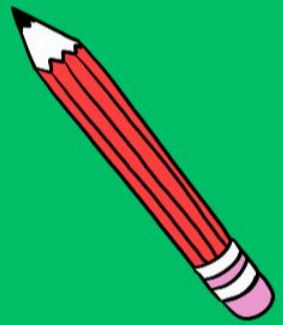
Your task

Simplify these on mini-whiteboards: 5x+7+3x+8, 7x+13+3x-3, 3m+n-m+4n-2m.

1. Circle each letter group in a colour
2. Add each group, keep the letter
3. Compare with partner: tidier but same?

10 min

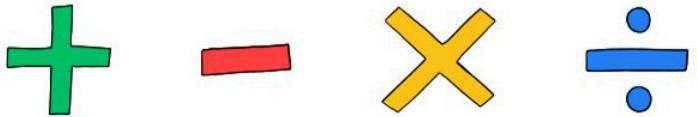
In pairs



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BIG IDEA

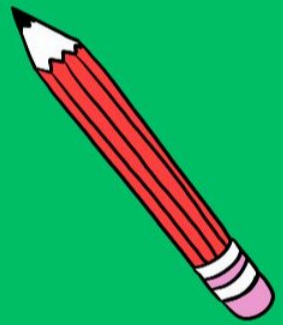
Same value, fewer bits: collect like with like.



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

How do you tidy best?

Which sorting trick helps you most?



A Colour underline each letter group

B Rewrite like terms next to each other

C Draw a bar model for each group

Vote with your hands, then explain why.

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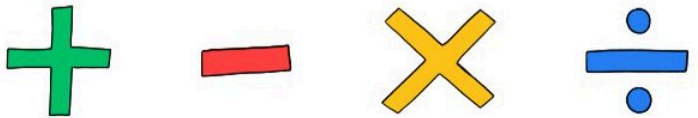
True or false?

$4b - 2b = 2b$

$3x + 2y = 5xy$

$5x + 5 - 3x = 2x + 5$

$2x + 3x^2 = 5x^3$



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