Understanding Ratios

Comparing two amounts with math language



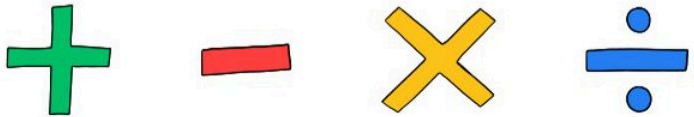
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BIG IDEA

A ratio shows how two amounts go together.



Illustration: Sunriseforever · Pixabay

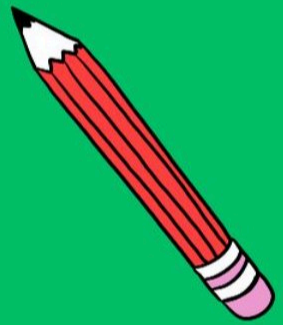


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$a^2+b^2=c^2$

Say It Like a Ratio Pro

1. Spot two amounts you can count.
2. Say: for every __ there is __.
3. Write in order: first to second.
4. Include units: 3 cups flour to 4 cups sugar.



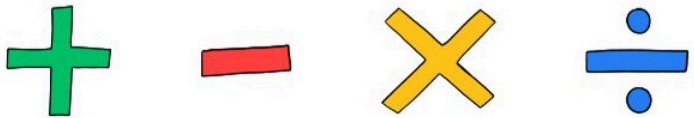
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Ways to Write a Ratio

- 2 to 3
- 2/3 as a ratio
- order matters: first to second

2 to 3

- 2:3
- for every 2 there are 3



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

What could this be?

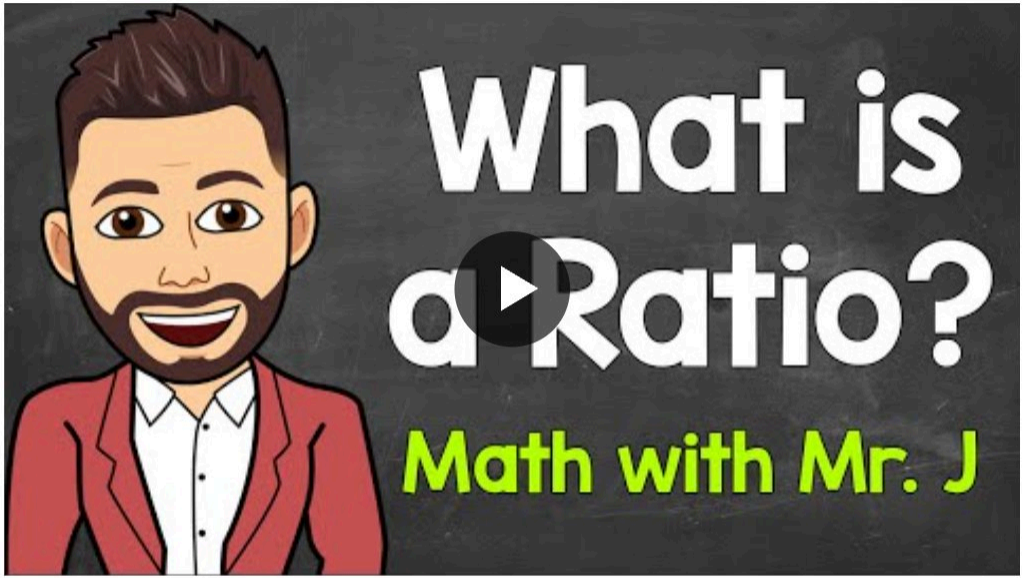
You see 2 of one thing for every 1 of another. What is it?





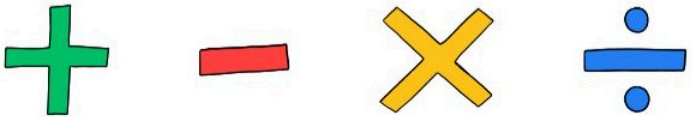
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Watch: What Is a Ratio?



▶ 0:00 – 4:30

- Listen for for-every language
- Spot the two quantities compared



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

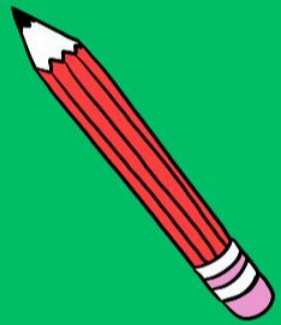
WINGS TO BEAKS

2:1

wings to beaks in a bird house

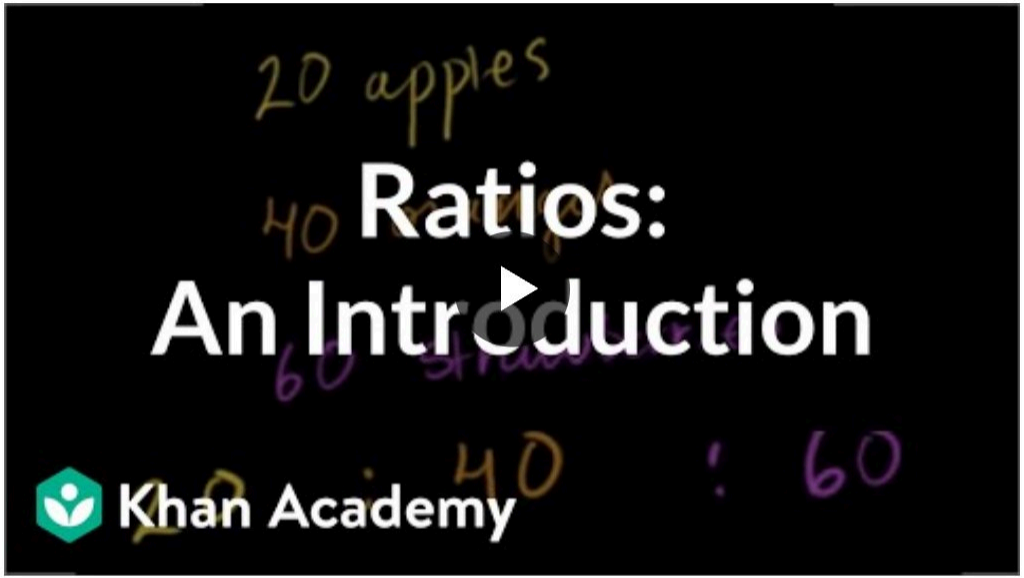
For every 2 wings there was 1 beak.





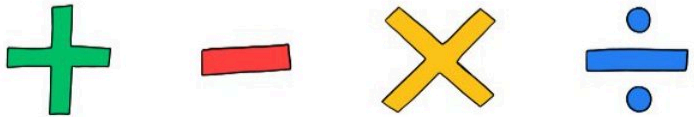
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Watch: Ratios in Real Life

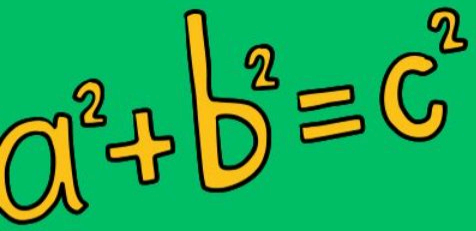


▶ 0:00 – 4:30

- Watch for everyday ratio examples
- How does order change meaning?



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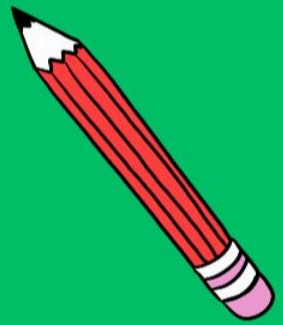
Your task

In pairs, find ratios around the classroom and write them three ways.

1. Count two types, like pens to books.
2. Write to, colon, and for-every sentences.
3. Check: is order correct? Read aloud.

10 min

In pairs



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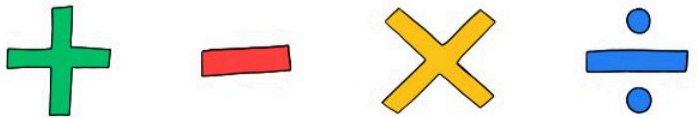
Add or Multiply?

Additive thinking

- Says 2:3 becomes 4:5 by +2
- Focuses on difference
- Not a ratio rule

Ratio thinking

- Sees multiplicative link
- 2:3 scales to 4:6
- Keeps relationship the same



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

Think, pair, share

Imagine a tray with 3 apples and 2 oranges. What ratios do you see? How do you say them?





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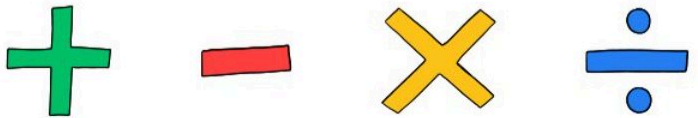
True or false?

The ratio of A to B is written B:A.

For every 3 apples there are 2 oranges is a ratio.

2:3 and 4:5 are equivalent ratios.

3:2, 3 to 2, and 3/2 can show the same ratio.



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