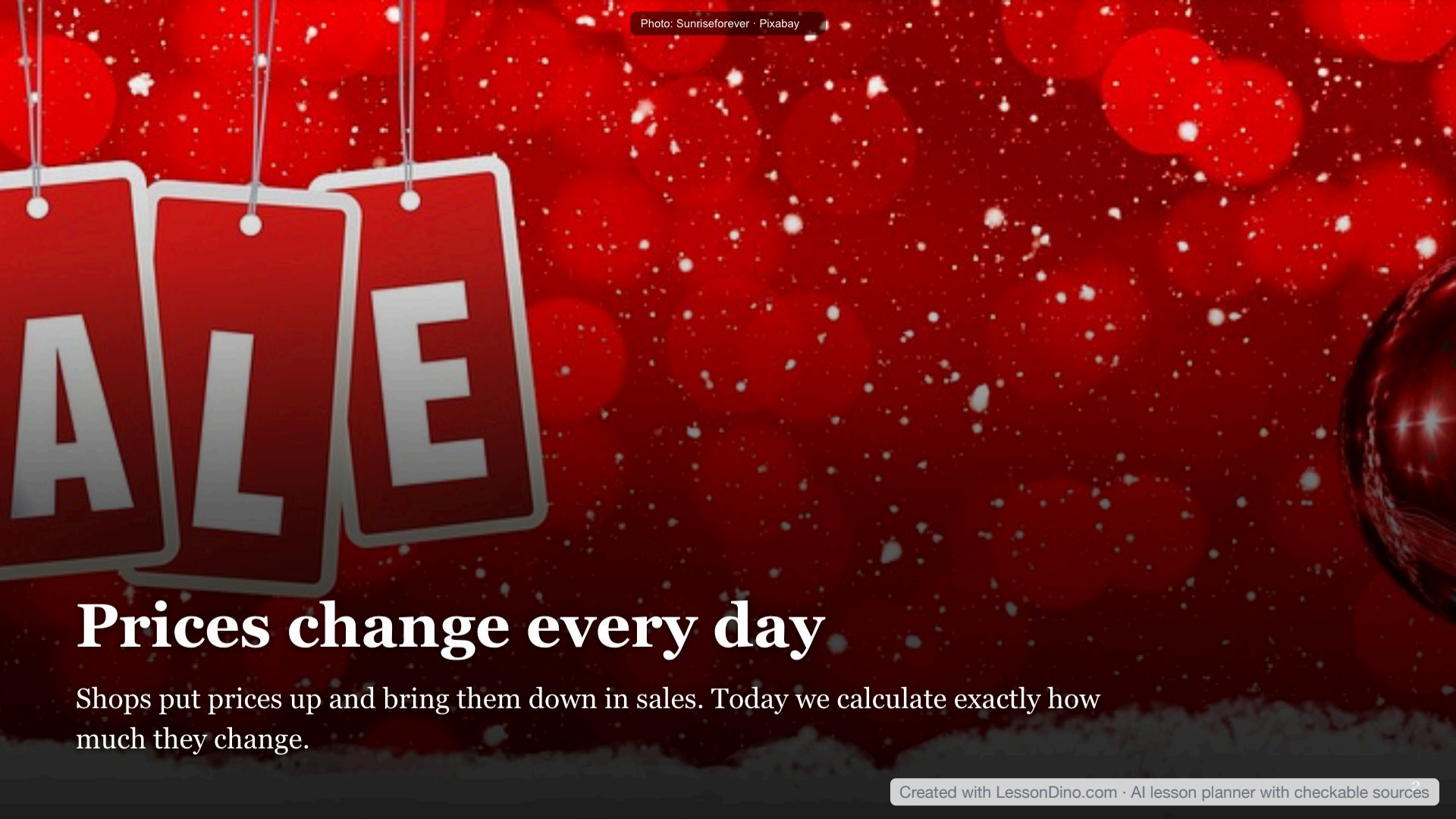
Percentage Change – Up, Down and Back Again

Increase, decrease, original values and simple interest



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Prices change every day

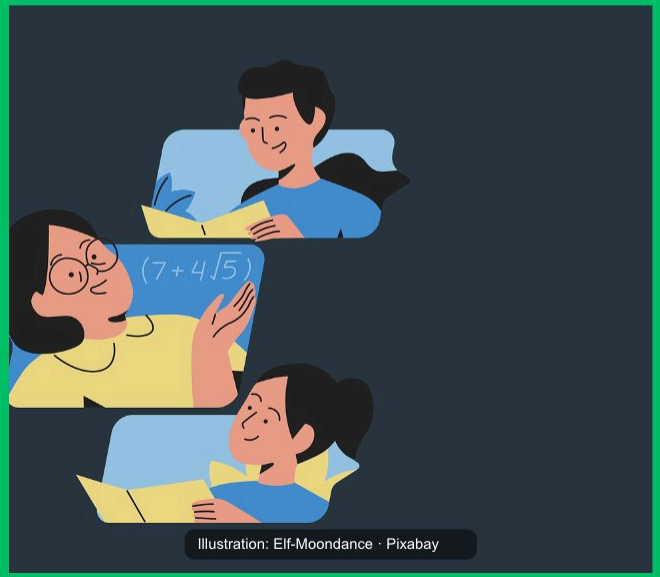
Shops put prices up and bring them down in sales. Today we calculate exactly how much they change.

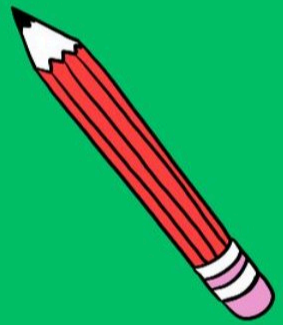
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$a^2+b^2=c^2$

What we will learn

- Work out percentage increase with multipliers
- Work out percentage decrease with multipliers
- Find the original value by reversing
- Calculate simple interest on savings



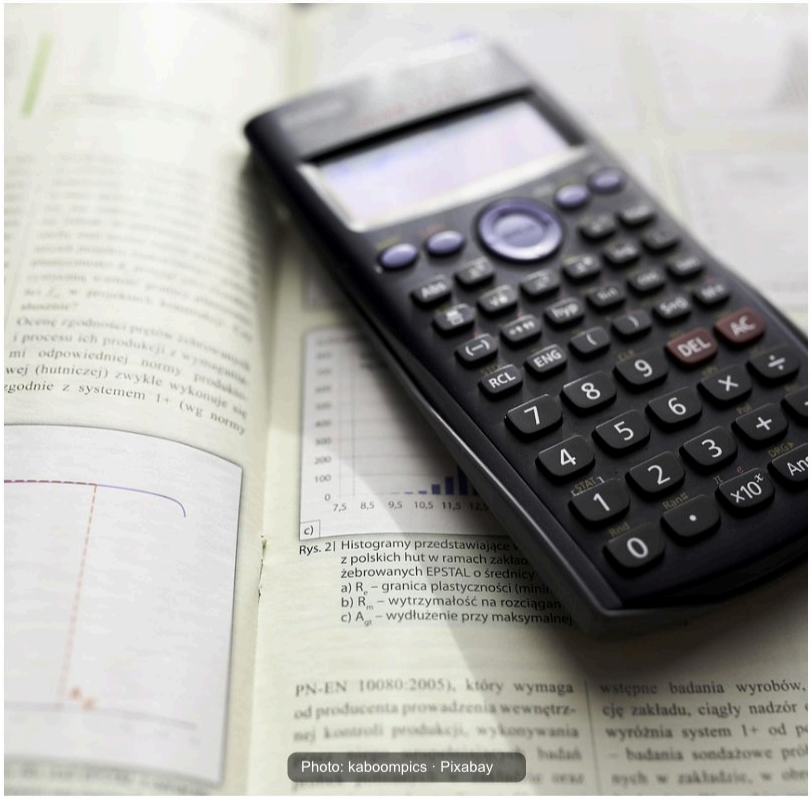


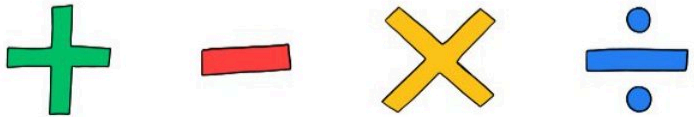
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DID YOU KNOW?

Up 10% then down 10% does not get you back!

£200 up 10% is £220, then down 10% is £198.





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

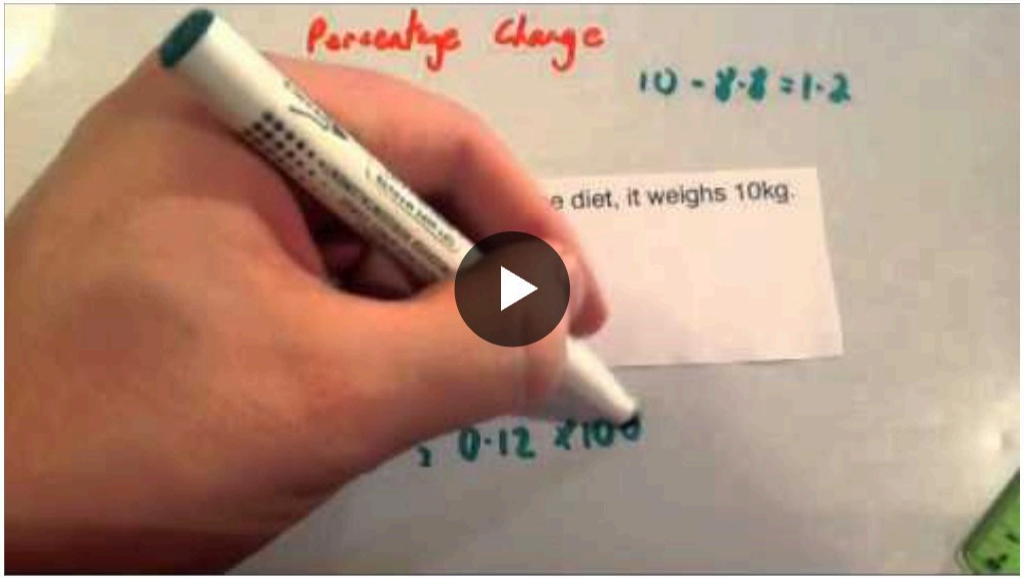
Think, pair, share

A £40 game rises to £46. How would you find the percentage increase?



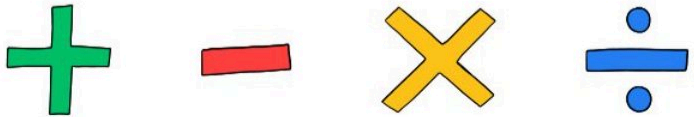
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Watch: increase and decrease



▶ 0:00 – 3:35

- Spot the multiplier for increase
- Spot the multiplier for decrease
- Listen for divide by original



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

Four tools for today

📈

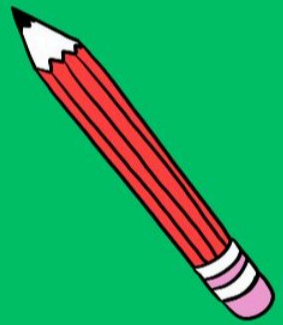
Increase

New = original x (100% + change%).

📉

Decrease

New = original x (100% - change%).



❓

Reverse

Original = new divided by multiplier.

🏦

Interest

Interest = amount x rate x years.

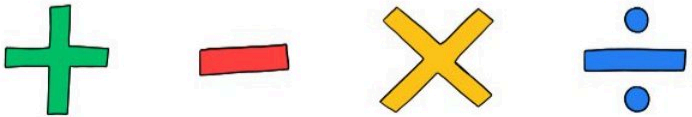
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Watch: finding the original



▶ 0:17 – 2:49

- Watch the bar showing the final percent
- See division to find 1% or 100%
- Check by multiplying forwards again



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

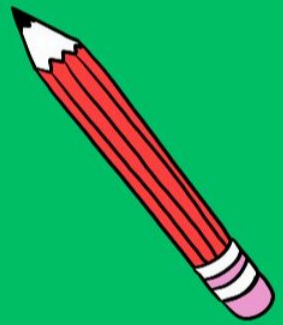
Your task

In pairs, solve the three mini-problems on the board using multipliers.

1. Find new price after 15% rise on £60
2. Find sale price after 25% off £48
3. Find original when £63 is price after 5% rise

10 min

In pairs



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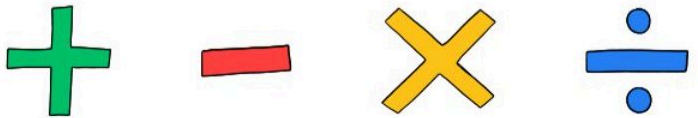
Increase vs decrease

Increase

- Multiplier over 1, e.g. 1.15
- New amount bigger than start
- Example: 25% up means x 1.25

Decrease

- Multiplier under 1, e.g. 0.85
- New amount smaller than start
- Example: 15% off means x 0.85



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

What could this be?

You pay £36 after 20% off. What did it cost before the sale?





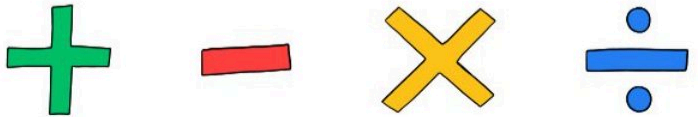
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Exit ticket

1. One thing I learnt today...

2. One question I still have...

3. What is 10% interest on £200 for 2 years?



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