Your notes

KS3 Maths: revision notes

Decimals and percentages

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Fractions, decimals and percentages

- Percent means "out of 100". Learn the common ones: 1/2 = 0.5 = 50%, 1/4 = 0.25 = 25%, 3/4 = 0.75 = 75%, 1/5 = 0.2 = 20%, 1/10 = 0.1 = 10%, 1/8 = 0.125 = 12.5%, 1/3 ≈ 0.333 = 33⅓%.
- **Decimal** to **percentage**: multiply by 100 (0.35 = 35%). **Percentage** to decimal: divide by 100 (7% = 0.07).

Percentages of amounts

- 10% = ÷ 10, 1% = ÷ 100, 50% = ÷ 2. Build others: 15% of 80 = 10% (8) + 5% (4) = 12.
- With a calculator, change the **percentage** to a **decimal**: 15% of 80 = 0.15 × 80 = 12.
- One number as a **percentage** of another: 12 out of 40 = 12 ÷ 40 × 100 = 30%.

Percentage change

- Increase by 20%: multiply by 1.2. Decrease by 15%: multiply by 0.85.
- A £40 jacket reduced by 25% costs 40 × 0.75 = £30.

Decimal calculations

- To add or subtract, line up the **decimal** points: 2.5 + 0.75 = 3.25.
- To multiply, ignore the points, multiply, then put the point back with the same total number of **decimal** places: 0.3 × 0.2 = 0.06.

Key terms

Percentage	A number out of 100.
Decimal	A number with a decimal point, such as 0.75.

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Multiplier	The number you multiply by to find a percentage change, such as 1.2.
Percentage increase	Adding a percentage of an amount onto it.
Percentage decrease	Taking a percentage of an amount away from it.
Equivalent	Having the same value, such as 0.5 and 50%.

Quick questions

Cover the answers and test yourself: remembering is what makes it stick.

1. What is 0.25 as a percentage?
2. What is 3/4 as a decimal?
3. What is 10% of 350?
4. What is 15% of 80?
5. What is 60 increased by 20%?
6. What is 200 decreased by 15%?
7. Which multiplier increases an amount by 20%?
8. What is 12 out of 40 as a percentage?

Answers

1. 25%
2. 0.75
3. 35
4. 12
5. 72
6. 170
7. 1.2
8. 30%

What to do next

Practise 12 questions on this topic

Try 4 exam questions, with mark schemes

Read the lesson, one step at a time

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