Teaching The Fundamentals: Level 1 Percentages

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Percentages

Content reference	Typically non-calculator (Section A)	Typically calculator (Section B)	Comment
14. Calculate percentages of quantities, calculate simple percentage increases and decreases by 5% and multiples thereof	20% of £30 The price of a car was £8500 The price increased by 5% What was the price of the car after the increase?	Jim's hourly rate was £8.50 for a 38 hour week. He gets a 5% increase in his hourly rate. How much in total will he earn for a 38 hour week at this new rate?	
18. Calculate simple interest in multiples of 5% on amounts of money	Find the simple interest on £3000 invested for 1 year at 5%	Find the simple interest on £3000 invested for 6 years at 5%.	Use of Premium × Rate ÷ 100 × number of years where 'Premium' is the original investment
19. Calculate discounts in multiples of 5% on amounts of money		A dress has a normal price of £29.99 A shop gives a discount of 15%. How much money is the discount?	

Percentages

Where are the issues

- Level 1 specification includes several content references which test percentages (increase, decrease, simple interest).
- Therefore, knowledge of working out the percentage of a whole number or money is essential to a successful performance in the examination.
- Learners often divide the given number by percentage or use build up method where they make conceptual errors, e.g. they assume that because dividing by 10 means finding 10% so dividing by 5 means finding 5%.
- Also, there is evidence that learners do not use calculators in the calculator section of the paper as the buildup methods are frequently shown there.

Percentages

Which is better?

- Is it better to use a formula or to use another technique?

- What would you do in this question?
  - Divide by 20?
  - Percentage needed divided by 100 x original number?

Kate uses a machine to make toys.

She makes

- 800 toys in one hour
- toys for 6 hours each day.

Kate checks 5% of the toys she makes in a day for any faults.

How many toys does Kate check in a day?

(3)

Percentages

Which is better?

- What problems does this question cause for learners who don't know the formula?

Yolanda buys a coat online.

The normal price of the coat is £205

Yolanda uses a 15% discount code.

(a) Work out the price of the coat after the discount.

(3)

Percentages

Which is better?

- What problems does this question cause for learners who don't know the formula?

- What about a question about interest over 1 year or over 5 years?

Yolanda buys a coat online.

The normal price of the coat is £205

Yolanda uses a 15% discount code.

(a) Work out the price of the coat after the discount.

(3)

Percentages

Read the Question Carefully

- Especially with percent increase or decrease.

Rita wants to buy an oak shelf from a shop.

The normal price of the shelf is £170
The shop has this offer.

45% off the normal price

Rita will use this offer.
She has a budget of £100 to buy the shelf.

(a) Can Rita buy the shelf?

(3)

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- 800 toys in one hour
- toys for 6 hours each day.

Kate checks 5% of the toys she makes in a day for any faults.

How many toys does Kate check in a day?

(3)

Percentages

Read the Question Carefully

- Especially with percent increase or decrease.

In June, Ian earnt a set amount of money.

In July he will get a pay rise of a certain percentage more.

How does he work out how much more money he will earn in July?

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In July he will get a pay rise of a certain percentage more.

How does he work out how much money he will earn in July?