

GCSE - Numeracy and Mathematics

Topic: Simple and Compound Interest and Depreciation.

Tier:Intermediate

Grade:

E/C



Starter

- 1) Increase £450 by 13%

- 2) Decrease £8500 by 4%

Top Tips!

- Use the multipliers, it's much quicker!
 $6000 \times 0.05 = 300$ (5% of 6000)
 $6000 \times 1.05 = 6300$ (increase 6000 by 5%)
 $6000 \times 0.95 = 5700$ (decrease 6000 by 5%)
- Ensure you can use your calculator to calculate percentages!

Skills:

- 1) Calculate the simple interest if £6000 is invested for 3 years with an annual simple interest of 4%.

- 2) Calculate the compound interest if £6000 is invested for 3 years with an annual compound interest of 4%.

- 3) Calculate the value of an investment after 3 years if £3500 is invested with an annual compound interest of 5.5%.

Examination Question:



2015 November Linear P2 Higher Qu 8

Rowena owns a car that Dafydd is planning to buy in 3 years' time. Rowena's car is currently worth £3500. Rowena estimates that her car will repeatedly depreciate by 24% of its value each year. Dafydd has already saved £100. Dafydd wants to set up a savings account to save a fixed amount of money each month to buy Rowena's car in 3 years' time. What would be the minimum amount of money, to the nearest pound, that Dafydd should pay into his savings account each month? You must show all your working. [7]

Assessment for Learning

Video / QR code

GCSE - Numeracy and Mathematics**Topic: Simple and Compound Interest and Depreciation.****Tier:Intermediate****Grade:****E/C****Starter**

- 1) Increase £450 by 13%
= £508.50
- 2) Decrease £8500 by 4%
= £8160

Top Tips!

- Use the multipliers, it's much quicker!
 $6000 \times 0.05 = 300$ (5% of 6000)
 $6000 \times 1.05 = 6300$ (increase 6000 by 5%)
 $6000 \times 0.95 = 5700$ (decrease 6000 by 5%)
- Ensure you can use your calculator to calculate percentages!

Skills:

- 1) Calculate the simple interest if £6000 is invested for 3 years with an annual simple interest of 4%.
Simple Interest = $6000 \times 4\% \times 3$
= £720
- 2) Calculate the compound interest if £6000 is invested for 3 years with an annual compound interest of 4%.
 $6000 \times 1.04^3 = £6749.18$
Compound Interest = $6749.18 - 6000$
= £749.18
- 3) Calculate the value of an investment after 3 years if £3500 is invested with an annual compound interest of 5.5%.
 $3500 \times 1.055^3 = £4109.84$

Examination Question:**2015 November Linear P2 Higher Qu 8**

Rowena owns a car that Dafydd is planning to buy in 3 years' time. Rowena's car is currently worth £3500. Rowena estimates that her car will repeatedly depreciate by 24% of its value each year. Dafydd has already saved £100.

Dafydd wants to set up a savings account to save a fixed amount of money each month to buy Rowena's car in 3 years' time.

What would be the minimum amount of money, to the nearest pound, that Dafydd should pay into his savings account each month?

You must show all your working. [7]

$$3500 \times 0.76^3 = £1536.42$$

$$£1536.42 - £100 = £1436.42$$

$$£1436.42 \div 36 = £39.90$$

Therefore, Dafydd should pay £40 into his savings account each month.

Assessment for Learning**Video / QR code**

