

Summer Term Maths Year 10

Repeated percentage change

Day
3

Week 6

1 Match the percentage increase/decrease to the multiplier.

An increase of 5%

0.995

A decrease of 0.5%

1.5

An increase of 50%

1.05

An increase of 0.5%

1.005

A decrease of 5%

0.95

2 Rosie has started a new job on a salary of £23,000. Every year she gets a 2.5% pay rise. Which calculation shows what Rosie's salary will be in 3 years?

$$23000 \times 2.5^3$$

$$23000 \times 1.25^3$$

$$23000 \times 1.025^3$$

3 The population of a country is increasing every year by 1%.

If the population now is 45 million, what will the population be in 20 years?

4 A shop reduced everything by 20% one week and then a further 10% the week after.

Does this mean that prices have now been reduced by 30%?

Use these items to investigate.



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5 A car costs £12,000 new. It loses 13% of its value every year. What would the value of the car be after 4 years?

6 Create a story to match these two calculations.

$$300 \times 1.15^3$$

$$850 \times 0.85^2$$

7 Teddy invests £1000
The bank pays 8% interest in the first year, 4% in the second year and 2% in third year.
How much interest will Teddy have made in total after the 3 years?

8 Dora bought a motorbike for £950
The motorbike lost 20% of its value in the first year she owned it and then a further 9% in the second year she owned it.
How much is the motorbike worth now after 2 years?

9 Dexter invests some money into a bank account that has compound interest of 5%.
How many years will Dexter have to invest his money before he has doubled his original investment?