

Compound Growth and Decay

ANSWERS 

1

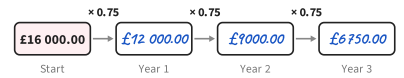
£700 is invested. It grows by 3% each year. Work out its value after 3 years.



Answer £764.91

2

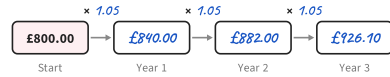
A caravan is worth £16 000. It falls by 25% each year. Work out its value after 3 years.



Answer £6750.00

3

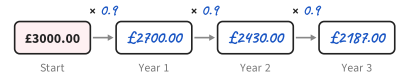
£800 is invested. It grows by 5% each year. Work out its value after 3 years.



Answer £926.10

4

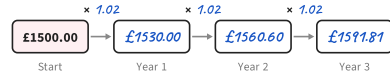
A laptop is worth £3000. It falls by 10% each year. Work out its value after 3 years.



Answer £2187.00

5

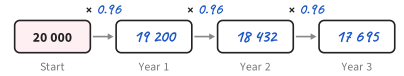
£1500 is saved in an account. It grows by 2% each year. Work out its value after 3 years.



Answer £1591.81

6

A town has a population of 20 000. It falls by 4% each year. Work out its value after 3 years.



Answer 17 695

7

A car costs £12 000. It loses 15% of its value every year. After how many years is it first worth less than £8000?

£10 200, £8670, then £7369.50

Answer 3 years

8

£500 is invested for 3 years. How much more interest does 4% compound interest earn than 4% simple interest?

£62.43 compared with £60

Answer £2.43

Compound Growth and Decay *further practice*

ANSWERS 

9

£2400 is invested. It grows by 3% each year. Work out its value after 4 years.

2400×1.03^4

Answer £2701.22

10

A phone is worth £850. It loses 12% of its value each year. Work out its value after 3 years.

850×0.88^3

Answer £579.25

11

Each multiplier is used every year. Write down the yearly percentage change, and say whether it is an increase or a decrease.

$\times 0.93$ 7% decrease

$\times 1.125$ 12.5% increase

12

A hive has 6000 bees. The number of bees grows by 15% each week. How many bees are there after 3 weeks?

$6000 \times 1.15^3 = 9125.25$

Answer 9125 bees

13

Account A pays 3% compound interest a year for 5 years. Account B pays 5% compound interest a year for 3 years. Kai puts £1000 in one account. Which account gives him more?

A: £1159.27 B: £1157.63

Answer Account A

14

A house is worth £220 000. Its value rises by 6% each year. After how many years is it first worth more than £300 000?

£294 410, then £312 074

Answer 6 years

15

A van is worth £18 000. It loses 20% of its value in the first year, then 10% of its value each year after that. Work out its value after 3 years.

$18\,000 \times 0.8 \times 0.9^2$

Answer £11 664

16

Sam says that a 10% increase followed by a 10% decrease takes you back to where you started. Is Sam right? Explain, using £100.

$100 \times 1.1 = 110, 110 \times 0.9 = 99$

Answer No, it ends at £99