

Interleaved: interest and depreciation

ANSWERS 

1

£2,000 is invested at 3% simple interest per year. How much is in the account after 4 years?

Which method? **Simple interest**
Compound interest Depreciation
the same interest each year:
 $2000 \times 0.03 \times 4 = 240$

Answer £2,240

2

£5,000 is invested at 4% compound interest per year. Find its value after 3 years.

Which method? **Simple interest**
Compound interest Depreciation
 5000×1.04^3

Answer £5,624.32

3

A van is bought for £18,000. It loses 15% of its value each year. Find its value after 2 years.

Which method? **Simple interest**
Compound interest **Depreciation**
 18000×0.85^2

Answer £13,005

4

Ravi borrows £1,200 at 6% simple interest per year. How much interest does he owe after 5 years?

Which method? **Simple interest**
Compound interest Depreciation
 $1200 \times 0.06 \times 5$

Answer £360

5

A laptop is worth £900. Its value goes down by 20% each year. What is it worth after 3 years?

Which method? **Simple interest**
Compound interest **Depreciation**
 900×0.8^3

Answer £460.80

6

£750 is saved at 2.5% compound interest per year. How much is there after 6 years? Give your answer to the nearest penny.

Which method? **Simple interest**
Compound interest Depreciation
 750×1.025^6

Answer £869.77

7

£3,000 is invested at 3.5% simple interest per year. How much is in the account after 3 years?

Which method? **Simple interest**
Compound interest Depreciation
 $3000 \times 0.035 \times 3 = 315$

Answer £3,315

8

A house worth £240,000 goes up in value by 5% each year. Find its value after 4 years.

Which method? **Simple interest**
Compound interest Depreciation
 240000×1.05^4

Answer £291,721.50

Interleaved: interest and depreciation *further practice*

ANSWERS 

9

A motorbike loses 12% of its value each year. It is worth £8,000 now. What will it be worth in 5 years? Give your answer to the nearest penny.

$$8000 \times 0.88^5$$

Answer £4,221.86

10

£400 earns 1.5% compound interest per year. How much interest has it earned after 10 years? Give your answer to the nearest penny.

$$400 \times 1.015^{10}, \text{ then take away } 400$$

Answer £64.22

11

A bond pays 4% simple interest per year on £6,500. How much interest does it pay in 7 years?

$$6500 \times 0.04 \times 7$$

Answer £1,820

12

A painting worth £1,500 goes up in value by 8% each year. After how many whole years is it first worth more than £2,000?

$$1500 \times 1.08^3 = £1,889.57, \\ 1500 \times 1.08^4 = £2,040.73$$

Answer 4 years

13

A phone bought for £650 loses 30% of its value in the first year and 20% each year after that. What is it worth after 3 years?

$$650 \times 0.7 \times 0.8^2$$

Answer £291.20

14

Ella invests £2,400 at simple interest. After 4 years she has earned £288 interest. What is the rate of interest per year?

$$288 \div 4 = 72 \text{ a year, } 72 \div 2400 \times 100$$

Answer 3%

15

A car loses 18% of its value each year. After 2 years it is worth £13,448. How much did it cost new?

$$13448 \div 0.82^2$$

Answer £20,000

16

£1,000 is invested for 2 years at 5% per year. Account A pays simple interest. Account B pays compound interest. Ben says they pay the same. Explain why he is wrong, and find the difference.

$$B \text{ earns interest on its interest: } £1,102.50 \\ \text{against } £1,100$$

Answer £2.50