Compound Interest and Depreciation

Grade 4 topic · Foundation and Higher · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Foundation students: aim for Questions 1–15 (46 marks) and have a go at the rest. Higher students: complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 71 marks.

Warm-up

1 Work out the simple interest on £1500 at 20% per year for 3 years. **[2 marks]**

Answer _____

2 Work out the simple interest on £1000 at 4% per year for 4 years. **[2 marks]**

Answer _____

3 Work out the simple interest on £2000 at 10% per year for 4 years. **[2 marks]**

Answer _____

4 Work out the simple interest on £400 at 4% per year for 4 years. **[2 marks]**

Answer _____

5 Work out the simple interest on £2000 at 10% per year for 5 years. **[2 marks]**

Answer _____

Core

6 £400 is invested at 2% compound interest per year. Work out the total after 2 years. **[3 marks]**

Answer _____

7 £1000 is invested at 10% compound interest per year. Work out the total after 2 years. **[3 marks]**

Answer _____

8 £2000 is invested at 10% compound interest per year. Work out the total after 2 years. **[3 marks]**

Answer _____

9 £500 is invested at 2% compound interest per year. Work out the interest earned in 2 years. **[3 marks]**

Answer _____

10 £800 is invested at 20% simple interest per year. Work out the total after 3 years. **[2 marks]**

Answer _____

Stretch

11 £2000 is invested at 5% compound interest per year. Work out the total after 4 years. **[4 marks]**

Answer _____

12 A car is worth £8000. It loses 15% of its value each year. Work out its value after 3 years. **[4 marks]**

Answer _____

13 £2000 is invested at 10% compound interest per year. How much interest is earned in the 3rd year only? **[5 marks]**

Answer _____

14 A bank pays 3% compound interest each year. Hana invests £5000. Work out the total after 5 years, to the nearest penny. **[4 marks]**

Answer _____

15 A laptop costs £1200. It depreciates by 25% in the first year and 15% in the second. Work out its value after 2 years. **[5 marks]**

Answer _____

Challenge

16 Compare the total value after 3 years of £1000 at 20% simple interest with £1000 at 20% compound interest. Work out the difference. **[5 marks]**

Answer _____

17 £1000 is invested at 5% compound interest per year. After how many whole years will it first be worth more than £2000? **[5 marks]**

Answer _____

18 After 2 years at 10% compound interest per year an investment is worth £1210. Work out the original amount. **[5 marks]**

Answer _____

19 The population of a town is 80,000. It decreases by 5% each year. Work out the population after 3 years, to the nearest whole number. **[5 marks]**

Answer _____

20 Bank A pays 3.2% simple interest per year. Bank B pays 3% compound interest per year. Dan invests £2000 for 5 years. Which bank gives more, and by how much? **[5 marks]**

Answer _____