

Name: _____

Date: _____

Compound Interest and Depreciation

- Jane invests £1200 in a bank account which earns interest at the rate of 6% per annum. Find the value of her investment after:
(a) 1 year (b) 2 years (c) 5 years.
- A sum of £5000 is to be invested for 10 years. What is the final value of the investment if the annual interest rate is:
(a) 5% (b) 4.8% (c) 7.2%?
- Which of the following investments would earn most interest?
A £300 for 5 years at 2% interest per annum,
B £500 for 1 year at 3% interest per annum,
C £200 for 3 years at 8% interest per annum
- The value of a computer depreciates at a rate of 25% per annum. A new computer costs £1600. What will the value of the computer be after:
(a) 2 years (b) 6 years (c) 10 years?
- A car costs £9000 and depreciates at a rate of 20% per annum. Find the value of the car after 3 years.
- John invests £500 in a building society with interest of 8.4% per annum. Karen invests £200 at the same rate.
(a) How many years does it take for the value of Karen's investment to become greater than £300?
(b) How many years does it take for the value of John's investment to become greater than
(i) £700 (ii) £900?

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7. If the rate of inflation were to remain constant at 3%, find what the price of a jar of coffee, currently priced at £1.58, would be in 4 years' time.
8. The population of a third world country is 42 million and growing at 2.5% per annum.
- (a) What size will the population be in 3 years' time?
 - (b) In how many years' time will the population exceed 50 million?
9. The value of a car depreciates at 15% per annum. A man keeps a car for 4 years and then sells it.
- (a) If the car initially cost £6000, find:
 - (i) its value after 4 years,
 - (ii) the selling price as a percentage of the original value.
 - (b) Repeat (a) for a car which cost £12 000.
 - (c) Comment on your answers.
10. A couple borrow £1000 to furnish their new home. They have to pay interest of 18% on this amount.
- (a) Find the amount of interest which would be charged at the end of the first year.
 - (b) If they repay £300 at the end of each year, how much do they owe at the end of the third year of the loan?