

Compound Interest

$$\text{Final Amount} = \text{Initial Value} \times \left(\frac{100 \pm \%}{100} \right)^n, n = \text{number of years}$$

- 1) I borrow a mortgage of £185,000 over 30 years at an interest rate of 4.1%. How much will I pay back overall?

- 2) I borrow a mortgage of £110,000 over 20 years at an interest rate of 4.89%. How much will I pay back overall?

- 3) I invest £3000 into a savings account with an interest rate of 7%. After 14 years, how much will I have in the bank if I do not touch my savings over the 14 years?

- 4) When I was born my dad put all my baby money into a savings account. He invested £670 at an interest rate of 6.2%. How much will I have when I turn 18?

- 5) I buy a car on finance for £7499. I take finance out on the car at an interest rate of 3.9% over 5 years. How much will I pay in total for the car?

- 6) I buy new kitchen on finance for £4500. I take finance out on the kitchen at an interest rate of 4.1% over 3 years. How much will I pay in total for the kitchen?

Compound Depreciation

- 1) I buy a car for £4500. The car will depreciate by 4% every year. How much will my car be worth after 5 years?

- 2) I buy a car for £8000. The car will depreciate by 5.5% every year. How much will my car be worth after 14 years?

- 3) I buy a laptop for £250. My laptop will depreciate by 16% every year. How much will my laptop be worth after 4 years and 6 months?

- 4) I buy a washing machine for £128. It depreciates by 7.8% every year. How much will it be worth after 10 years?

- 5) I buy a flat screen TV for £750. It depreciates by 10.21% every year. How much will it be worth after 9 years?

- 6) Alex buys a mobile phone for £450 it depreciates at a rate of 16.3% every year. Rhys buys a mobile phone for £320 and it loses value at a rate of 8.9% every year.

David buys a phone for £650 which depreciates by 21.89% each year. Who's phone is worth the most after 4 years?