Compound interest

At £2500 investment for 5 years at a rate of 7.6% P.a. calculate compound interest that her investment will earn.
Sol:

$$P = £2500,\ n = 5,\ R = 7.6,\ A = P\left(1+\frac{R}{100}\right)^{n}$$

$$\text{Accumulated Amount} = A = 2500\left(1+\frac{7.6}{100}\right)^{5} = £3605.8$$

Compound interest = A – P = £ 1105.8

Q 1. Megan invested £2000 for 3 years at 5% Compound Interest.
Calculate the interest Megan received.

Amount =_____, Compound Interest _____

Q 2. Mr Jones buys a new car for £50 000.
The car decreases in value at the rate of 30% each year.
Find the value of the car after two years.

New Price =_____, Decreased Price_____

Q.3 £650 is invested for 2 years at 7% compound interest which is paid annually.
What is the total interest earned?

Amount =_____, Compound Interest _____

Q.4 £4000 is invested for 3years at 8% compound interest which is paid annually.
What is the total interest earned.

Amount =_____, Compound Interest _____

Q.5 £600 is invested for 8year at 9.50% compound interest which is paid annually. What is the total interest earned.

Amount =_____, Compound Interest _____

Q.6 The price of a new car is £15000 now. Each year the price decreases by 6% of the price of the beginning of years. Calculate the price of a car in three years time.

New price=_____

Q.7 A new computer costs £340. With depreciation its value is expected to tall each year by 15% of its value at the beginning of the year. What its value after three year.

New price=_____

Q8. How long will it take to accumulate one million pounds in the following situations?

a An investment of £100 000 at a rate of 12% compound interest.

b An investment of £50 000 at a rate of 16% compound interest.

Q9. An oak tree is 60 cm tall. It grows at a rate of 8% per year. A conifer is 50 cm tall. It grows at a rate of 15% per year. How many years does it take before the conifer is taller than the oak?

Q10. A tree increases in height by 18% per year. When it is 1 year old, it is 8 cm tall. How long will it take the tree to grow to 10 m?

Q11. Show that a 10% increase followed by a 10% increase is equivalent to a 21% increase overall.

Q12. Kylie wants to invest £35 000 for 5 years.

Investment A	**Investment B**
£35 000 Earns 3.02% interest per annum Interest paid yearly by cheque	£35 000 Earns 2.98% compound interest per annum

She considers two investments, Investment A and Investment B.
Kylie wants to get the greatest return on her investment.
Which of these investments should she choose?

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