Compound interest

Find the compound interest.

Q1. P=£3000   R= 5%   n= 3 years   C.I. =_____

Q2. P=£1500   R= 3%   n= 4 years   C.I. =_____

Q3. P=£2500   R= 7%   n= 3.5 years   C.I. =_____

Q4. P=£2520   R= 6.5%   n= ½ years   C.I. =_____

Q5. P=£12000   R= 0.75%   n= 10 years   C.I. =_____

Find the time taken to double the money. (If interest is paid as compound interest)

Q6. P=£6000   R= 5%   n =_____

Q7. P=£2500   R= 8%   n =_____

Q8. P=£6500   R= 7.5%   n =_____

Q9. P=£4520   R= 6.5%   n =_____

Q10. P=£10000   R= 10%   n =_____

Q11. A man earns £15 000 per annum. He receives a 5% increase each year.

a) How much does he earn after six years?   _____

b) How many years does it take for his salary to double?   _____

Q12. A house is bought for £60 000. Its value increases by 7% per annum.

a) How much is the house worth in eight years?   _____

b) How many years will it take for the value to reach £100 000?   _____

Q13. There are 1500 elephants in a national park. The numbers are decreasing by 6%   per annum.

a) How many elephants will be in the park in three years?   _____

b) When the number of elephants falls below 800 the elephant will be declared an endangered species. How many years will this take?   _____

Q14. Henry wants to invest £4000 for 2 years. He can choose between two different banks.

Bank A	Bank B
Earns 3% per annum compound interest	Earns 3.2 % per annum simple interest Each year's interest is paid by cheque

Henry wants to earn as much interest on his investment as possible.
Which bank should Henry choose?
You must show your working. _____

Q15. James invests £100 in a current account which pays 4.07% p.a.
a) What will his investment be after 5 years? _____

b) By what percentage has his investment grown by in *real terms*? _____

Q16. Jasneet invests £500 in an account that pays 3% p.a. She doesn't pay tax.
How long will it take for her to double her money? _____

Q17. Aminata invested £2500 for n years in a savings account. She was paid 3% per annum compound interest. At the end of n years, Aminata has £2813.77 in the savings account. Work out the value of n.

_____

Q 18. 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. _____

Q19. 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.

_____

Q.20 Mia bought a car for £12 000
Her car depreciated at 10% a year.
After how many years will her car be worth £6000

_____

Comparison and Best buy

Q1.Lesley is going to go on holiday. She will travel by plane.
Lesley finds some information about three airlines.

Easyair	Cheapfly	Britair
Flight £225	Flight £74.98	Flight £104.88
Price includes 20 kg of luggage and all taxes	**Plus** Taxes £29.97 Check-in £20 Each 20 kg of luggage £36	**Plus** Each 15 kg of luggage £25
Special Offer $\frac{1}{5}$ off the price of all flights in October	**Plus** 3% extra charge for credit card payment	**Plus** 4.5% extra charge for credit card payment

Lesley will go on holiday in October. She will have 20 kg of luggage.
She will pay for her flight by credit card. She will choose the airline with the cheapest total cost. Which airline? You must show your working.

_____

Q2. The table shows the costs, per person, of a holiday at two different hotels.
It shows the cost for 5 nights and the cost for each extra night.
It also shows the discount for each child.

Date holiday starts	Park Palace		Dubai Grand	
	5 nights	extra night	5 nights	extra night
01 Jan – 31 Mar	£1169	£150	£849	£86
01 Apr – 09 Apr	£1229	£150	£1219	£95
10 Apr – 15 Jul	£810	£80	£853	£53
16 Jul – 20 Aug	£810	£80	£854	£53
21 Aug – 10 Dec	£810	£80	£869	£94
Discount for each child	$\frac{1}{5}$ off		15% off	

There are two adults and two children in the Smith family. The family want a holiday for 7 nights, starting on 1st August. One hotel will be cheaper for them than the other hotel. Work out the cost of the cheaper holiday. You must show all your working.

_____