1 A population of bacteria is increasing by 10% each hour.

Find the percentage increase in the population every 3 hours.

….....

(Total for question 1 is 2 marks)

2 A shop decreases prices by 10% and then by a further 20%.

Rachel says: “Prices have now decreased by 30%”.

Is Rachel correct?
You must show your working.

(Total for question 2 is 2 marks)

3 Alex invests some money for 3 years in a savings account.
She gets 4% per annum compound interest.

Alex has £5680.56 at the end of 3 years, work how much she invested.

….....

(Total for question 3 is 3 marks)

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4 Bailey invests some money for 5 years in a savings account.
She gets 3% per annum compound interest.

Bailey has £3593.75 at the end of 5 years, work how much she invested.

….....

(Total for question 4 is 3 marks)

5 Charlie invests £2500 for 3 years in a savings account.
She gets 3% per annum compound interest in the first year, then x% for 2 years.

Charlie has £2705.36 at the end of 3 years, work out the value of x .

….....

(Total for question 5 is 4 marks)

6 Dana invests £5000 for 4 years in a savings account.
She gets 2% per annum compound interest in the first year, then x% for 3 years.

Dana has £5508.23 at the end of 4 years, work out the value of x .

….....

(Total for question 6 is 4 marks)

7 A population model assumes that the number of people living in Stoverton is increasing by x% each year.

The population is expected to increase by 60% in 6 years, work out the value of x.
Give your answer to 1 decimal place.

….....

(Total for question 7 is 3 marks)

8 A car's value is decreasing by x% each year.

The car will half in value in 5 years, work out the value of x.
Give your answer to 1 decimal place.

….....

(Total for question 8 is 3 marks)

9 The number of rabbits in a field is increasing by x% each year.

The population is expected to double in 5 years, work out the value of x.
Give your answer to 1 decimal place.

….....

(Total for question 9 is 3 marks)

10 A car's value is decreasing by x% each year.

The car's value will decrease by 60% in 6 years, work out the value of x.
Give your answer to 2 decimal places.

….....

(Total for question 10 is 3 marks)

11 A circle's radius is increased by 8%.
Find the increase in the circle's area.

….....

(Total for question 11 is 4 marks)

12 A circle's area is increased by 5%.
Find the increase in the circle's radius.

Give your answer to 1 decimal place.

….....

(Total for question 12 is 4 marks)

13 A cube's length is increased by 12%.
Find the increase in the cube's volume.

Give your answer to 3 significant figures.

….....

(Total for question 13 is 4 marks)

14 A cube's volume is increased by 25%.
Find the increase in the cube's length.

Give your answer to 3 significant figures.

….....

(Total for question 14 is 4 marks)