

Using Percentages

1. Bacteria in a test tube increase at the rate of 0.9% per hour.
At 12 noon there are 4500 bacteria.
At 3 pm, how many bacteria will be present?
Give your answer **to 3 significant figures**. 4 KU
2. In January 2001, it was estimated that the number of flamingos in a colony was 7000.
The number of flamingos is decreasing at the rate of 14% per year.
How many flamingos are expected to be in this colony in January 2005 ?
Give your answer **to the nearest 10**. 4 KU
3. In 1999, a house was valued at £70,000 and the contents were valued at £45,000.
The value of the house **appreciates** by 7% each year.
The value of the contents **depreciates** by 9% each year.
What will be the **total** value of the house **and** contents in 2002 ? 3 KU
4. A factory was put on the market in January 2001.
The site was in an excellent location so the value of the building has appreciated since then by 5.3% per year.
Unfortunately the plant & machinery were poorly maintained and have depreciated by 8.5% per year.
The value of the building was £435 000 and the value of the plant & machinery was £156 000 in January 2001.
What would be the expected value of the complete factory in January 2003 ? 4 KU
5. How much would the Strachans pay for a new iron, priced £16.50 at Watsons ? 3 KU
- WATSON'S SALE
 $66\frac{2}{3}$ % off everything
6. In 1995, the price of 1 litre of a certain kind of petrol was 54.9 pence
By 1996, the price of 1 litre of the same kind of petrol had risen to 56.3 pence.
The percentage increase for each of the next four years is expected to be the same as the percentage increase between 1995 and 1996.
What is the price of 1 litre of petrol expected to be in the year 2000? 4 RE

Reversing the change

7. A computer is sold for £695. This price includes VAT at 17.5%
Calculate the price of the computer **without** VAT. 3 KU
8. During the Christmas Sales a shopkeeper sold 60% of his "Santa Claus Dolls"
He then found he was left with 50 dolls.
How many dolls had he in stock to begin with ? 3 KU
9. Kerry bought a new car in 1996. When she sold it four years later, she found that it had reduced in value by 60% and she received only £4640.
How much had Kerry paid for the car in 1996 ? 3 KU
10. James bought a car last year. It has lost $12\frac{1}{2}$ % of its value since then.
It is now valued at £14 875.
How much did James pay for his car. 2 KU