

## National 5 Homework : 1 year course

### Percentages

1. Kevin earns an annual salary of £14 870. He has just been awarded a salary increase of 5%. Calculate his new annual salary.

2. A sample of a machine's output is examined,  
Out of a batch of 70 components, 6 are found to be faulty.

a) What percentage of the sample are faulty ?

b) The machine's output on the last shift was 5800.

Estimate the number of faulty components produced in the last shift?



3. Calculate the compound interest received on £3500 invested for 4 years at 4% per annum.

4. Frank Graham deposited £6000 in his bank and left it there for 3 years, gaining interest each year. The interest rate was 7% in the first year, 5% in the second year, but rose to 9.6% in the third year.

He withdrew all his money at the end of year 3. How much did he then receive?

Give your answer correct to **two significant figures**.

5. Ged buys a new car for £14 560 in January 2008.

He calculates that it will depreciate by 20% at the end of the first year and then by 15% during each year thereafter.

What will the car be worth in January 2012?



6. Victoria bought a jacket in the sale which had 20% off.  
If it cost £36 on sale what did it cost before the sale?

7. The pressure in a boiler is 120 poundals.

A faulty valve causes the pressure to rise in the boiler by 12% every hour.  
The situation becomes dangerous when the pressure reaches 200 poundals.

If it continues to rise this way, during which hour will the boiler's pressure reach danger level?