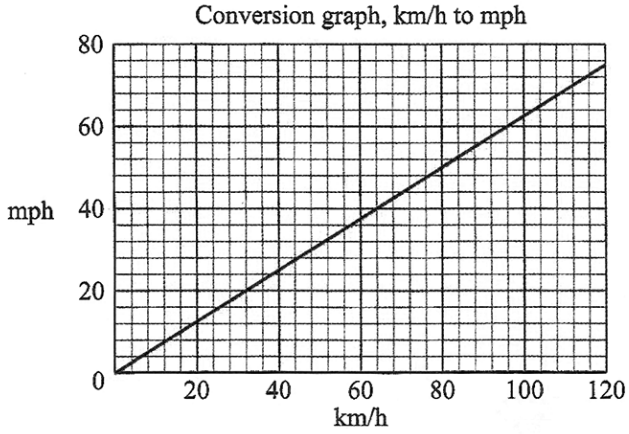
Exam-style questions

1 A cuboid has dimensions 14.5 cm, 13.2 cm and 21.3 cm. These dimensions are all given to 1 decimal place.
Calculate the upper and lower bounds for the volume of the cuboid in:

a cm^3 **b** mm^3

Give your answers in standard form.

2 The graph shows the relationship between speeds in mph and km/h.



Use the graph to estimate:

a the speed, in km/h, of a car travelling at 65 mph
b the speed, in mph, of a train travelling at 110 km/h.

3 You are given that $a = 6.54$ (to 3 significant figures) and $b = 123$ (to 3 significant figures).
Calculate upper and lower bounds for each of the following, give your answers to 3 significant figures:

a $a+b$ **b** ab **c** $\frac{a}{b}$ **d** $b-\frac{1}{a}$

Past paper questions

1 A carton contains 250 ml of juice, correct to the nearest millilitre.
Complete the statement about the amount of juice, j ml, in the carton.
..... $\leqslant j <$ ..... [2]

[Cambridge IGCSE Mathematics 0580 Paper 13 Q11 October/November 2012]

2 George and his friend Jane buy copies of the same book on the internet.
George pays \$16.95 and Jane pays £11.99 on a day when the exchange rate is \$1 = £0.626.
Calculate, in dollars, how much more Jane pays. [2]

[Cambridge IGCSE Mathematics 0580 Paper 22 Q6 May/June 2013]

3 Joe measures the side of a square correct to 1 decimal place.
He calculates the **upper** bound for the area of the square as 37.8225 cm^2.
Work out Joe's measurement for the side of the square. [2]

4 The length, l metres, of a football pitch is 96 m, correct to the nearest metre.
Complete the statement about the length of this football pitch.
..... $\leqslant j <$ ..... [2]

[Cambridge IGCSE Mathematics 0580 Paper 22 Q6 October/November 2014]

5 The base of a triangle is 9 cm correct to the nearest cm.
The area of this triangle is 40 cm^2 correct to the nearest 5 cm^2.
Calculate the upper bound for the perpendicular height of this triangle. [3]