

Using results

1) Given $37 \times 82 = 3034$, evaluate:

a) $3.7 \times 820 = 3034$

b) $0.37 \times 8.2 = 3.034$

c) $3034 \div 820 = 3.7$

2) Given $2.14 \times 47.2 = 101.008$, evaluate:

a) $21.4 \times 472 = 10100.8$

b) $1010080 \div 4.72 = 214000$

Rounding to powers of ten

1) Round the number 26485 to:

a) The nearest ten = 26490

b) The nearest hundred = 26500

c) The nearest thousand = 26000

2) Round the number 1.618803399 to:

a) One decimal place = 1.6

b) Two decimal places = 1.62

c) Three decimal places = 1.619

Estimation

1) Estimate:

a) $32.8 \times 46.5 = 1500$

b) $834.5 \div 3.76 = 200$

c) $\frac{68.2 \times 10.9}{\sqrt{50}} = 100$

2) Estimate the value of $\sqrt{87}$, giving your answer to one decimal place.

= Answer in range 9.1 - 9.5

Interpreting limits of accuracy

A square has side length 8cm to the nearest centimetre.

a) What is the largest possible area of the square?

= 72.25cm^2

b) What is the smallest possible area of the square?

= 56.25cm^2

Error intervals

The height (h) of a tree is measured to be 1.3m to the nearest 5cm .

Using an inequality, write the error interval for the height.

= $1.275\text{m} \leq h < 1.325\text{m}$

Truncation

a) Truncate 41056 to the tens.

= 41050

b) Truncate 28736 to the hundreds.

= 28700

c) Truncate 3.14159 to two decimal places.

= 3.14

d) Truncate 23.995 to an integer.

= 23

e) A number is truncated to the tens and given as 6430. What is the largest integer the number could have been?

= 6439

Rounding to significant figures

1) Round to one significant figure:

a) 56.034 = 60

b) 0.0419 = 0.04

c) 7555 = 8000

2) Round to three significant figures:

a) 100623 = 101000

b) 4.3994 = 4.40

c) 66944 = 66900

Using a calculator

1) Use a calculator to work out $\sqrt[3]{3542}$

a) Write down the full calculator display = 15.24343532...

b) Round your answer to three decimal places = 15.243

2) Use a calculator to work out

$$\sqrt{\frac{3.5 + 2.77}{14 - 6.7}}$$

a) Write down the full calculator display = 0.9267707967...

b) Round your answer to two significant figures = 0.93

Bounds

A rectangle has width (w), of 5cm (to the nearest cm) and length (l), of 8.8cm (to the nearest mm).

a) Find the upper bound for the perimeter

= 28.7cm

b) Find the lower bound for the proportion $\frac{l}{w}$

= 1.59