Written methods

- Written methods for adding, subtracting, multipying and dividing involving decimals.

Keywords

You should know

Unless stated otherwise, no calculators should be used in this topic.

explanation 1

1 Work out these additions.

a 25.1 + 13.6   **b** 126.2 + 31.7   **c** 826.4 + 3.9

d 431.8 + 9.2   **e** 34.9 + 3.06   **f** 459.7 + 28.36

g 69 + 837.26   **h** 0.38 + 640.99   **i** 47.06 + 60.98

2 Work these out.

a 42.2 + 3.4 + 18.2   **b** 12.9 + 8.3 + 18

c 102.37 + 19.62 + 0.04   **d** 1312 + 106.04 + 13.1

e 1406.7 + 19.38 + 1.06   **f** 26.9 + 0.1 + 127.32 + 3.88

explanation 2a   explanation 2b

3 Work out these subtractions.

a 48.3 − 26.1   **b** 98.7 − 13.7   **c** 68.2 − 46.3

d 142.8 − 17.4   **e** 826.5 − 7.9   **f** 312.4 − 286.7

g 319.07 − 4.4   **h** 382.06 − 291.77   **i** 62.4 − 27.25

4 Work these out.

a 412.98 − 12.3 − 2.04   **b** 308.64 − 14.11 − 19.01

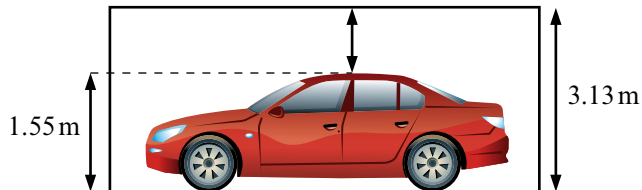**c** 901.3 − 312.4 − 27.01   **d** 38.7 + 123.9 − 3.04

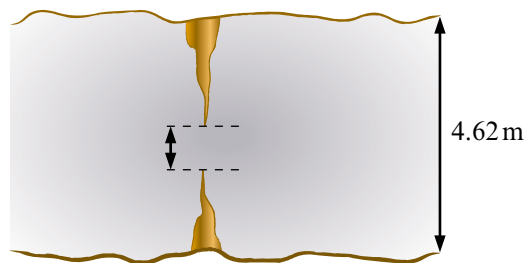**e** 67.4 + 33.12 − 91.3 + 48.04   **f** 104.9 − 3.06 + 72.7 − 81.92

5 a The heights of three pupils are 1.80 m, 1.76 m and 1.69 m.
Calculate the combined height of the three pupils.

b Four apples are weighed. Their masses are 0.15 kg, 0.21 kg, 0.09 kg and 0.2 kg.
Calculate their total mass.

c A car is parked in a garage with dimensions as shown.

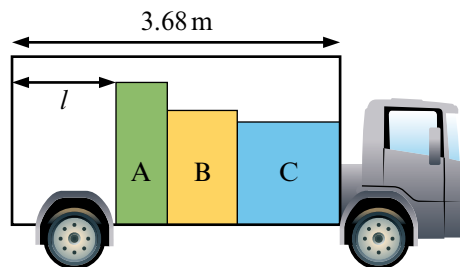How much space is there between the roof of the car and the ceiling?

1.55 m

3.13 m

d A cave is 4.62 m tall. A stalactite growing down from the ceiling is 1.38 m long, whilst a stalagmite directly below it, is 0.87 m tall.

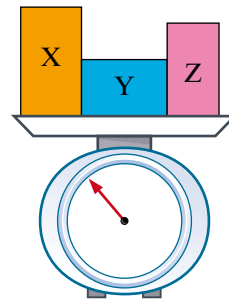Calculate the distance between them.

4.62 m

e Three crates, A, B and C, are arranged in the back of a lorry which is 3.68 m long.

Crate A is 0.2 m long, crate B is 0.86 m long and crate C is 1.05 m long.

Calculate the remaining length, l.

3.68 m

l

A   B   C

f Three packets X, Y and Z are weighed at the post office. Their combined mass is 12.63 kg.

Y has a mass of 2.2 kg and Z has a mass of 6.49 kg.

Calculate the mass of packet X.

X   Y   Z

explanation 3a   explanation 3b

6 **i** Estimate the answer to each calculation.

  ii Without using a calculator, work out each answer exactly.

  a 32 × 2.5 **b** 820 × 4.1 **c** 98 × 4.7

  d 125 × 3.62 **e** 178 × 12.4 **f** 168 × 14.6

  *g 24.4 × 6.8 ***h** 34.4 × 28.3 ***i** 126.1 × 0.04

7 **a** 56.4 g of cake mix is used to make a cupcake. How much cake mix is needed for 62 cupcakes?

  b The cost of a pencil is £0.18. Calculate the cost of buying 86 pencils.

  c A magazine costs £2.42 per month. Calculate the cost of a year's subscription.

  *d A rectangular garden is 23.4 m wide and 8.7 m long. Calculate its area.

explanation 4a   explanation 4b

8 Work these out.

  a 92.8 ÷ 16 **b** 178.2 ÷ 22 **c** 223.2 ÷ 24

  d 225.6 ÷ 48 **e** 387.2 ÷ 32 **f** 566.1 ÷ 37

9 Work out the answers to the following divisions.

  a 32 ÷ 0.8 **b** 3.64 ÷ 0.7 **c** 153 ÷ 0.6

  d 0.345 ÷ 0.05 **e** 31.14 ÷ 0.9 **f** 0.739 ÷ 0.02

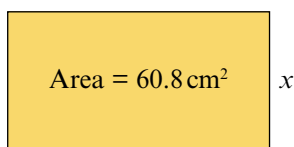 **g** 531 ÷ 0.03 **h** 0.741 ÷ 0.05 **i** 4.36 ÷ 0.08

10 The area of each shape is given. Calculate the unknown lengths.

  a 16 cm

Area = 60.8 cm² x

  b 12.5 m

Area = 80 m² x