Written methods

- Using written methods for addition, subtraction, multiplication and division of decimals with differing numbers of decimal places

Keywords

You should know

Do not use calculators for this topic.

explanation 1

1 Work out these additions.

a 54.72 + 49.5 **b** 34.8 + 23.74 **c** 7.54 + 125.8

d 51.05 + 45.921 **e** 2.99 + 48.03 **f** 0.72 + 179.098

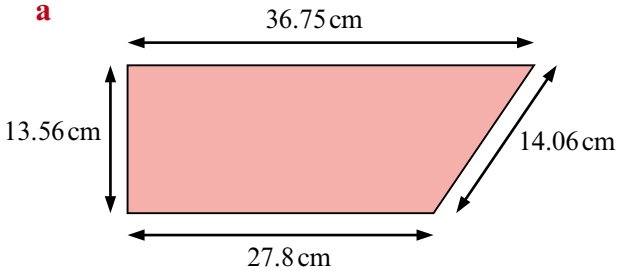
2 Work these out.

a 4.56 + 81.48 + 37.42 **b** 36.84 + 372.7 + 1211.98

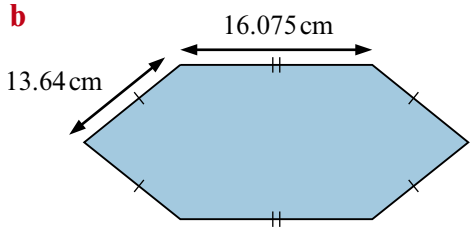
c 9045.8 + 813 + 67.52 **d** 648.805 + 43.7 + 0.337

3 Find the perimeter of each shape.

a



b



explanation 2a explanation 2b

4 Work out these subtractions.

a 23.7 − 12.9 **b** 406.3 − 79.74 **c** 403.6 − 39.88

d 30.08 − 24.65 **e** 407.562 − 320.798 **f** 1003.4 − 891.5

5 Work these out.

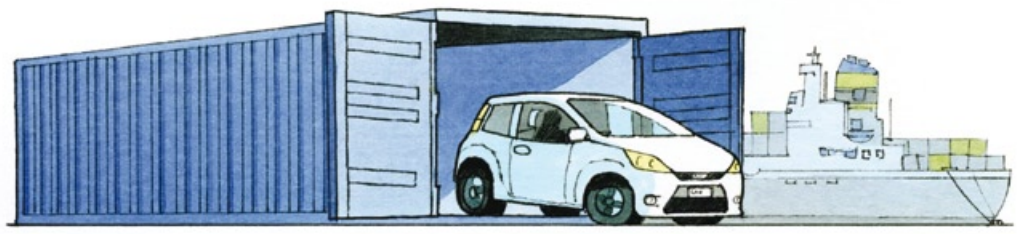
a 39.05 − 10.13 − 8.7 **b** 24.7 − 9.05 − 5.82 **c** 540.3 − 7 − 21.7

d 31.83 − 6.4 − 23.54 **e** 70.2 − 6.74 − 46.3 **f** 211.453 − 45.84 − 20.303

6 A large shipping container, packed with cars, weighs 28.18 tonnes.

A small family car weighing 1.09 tonnes and a larger estate car of 1.4 tonnes are driven out of the container.

How heavy will the container be now?



7 Four friends had a total of £45.75 between them.

Josie had £15.68, Lucie had £12.85 and Sandy £13.34.

How much money must Susie have had?

8 Work out these mixed addition and subtraction calculations.

a 8.04 + 322.7 − 15.46 **b** 4.56 − 143.5 + 2062.34

c 5.7 − 30.29 + 58.92 + 45 **d** 61.3 − 11.043 + 45.617

e 12.45 − 6.2 + 15.6 − 4.031 **f** 34.03 − 7.8 + 13.03 − 22.55

9 Three sacks weigh 16.64 kg, 25.07 kg and 9.88 kg.

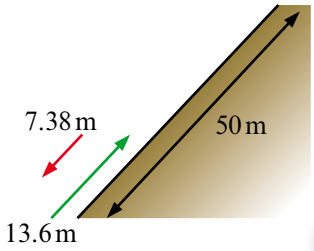
How much more or less than 50 kg do they weigh altogether?

10 On an outdoor adventure camp, pupils had to climb up a 50 m muddy incline as fast as possible.

Jason climbed up 13.6 m and then slid back 7.38 m.

He then clambered up another 18.3 m before slipping back 10.35 m.

How much further did he have to climb to reach the top?



explanation 3a | explanation 3b | online

11 Work out these multiplications.

a 8×45.6 **b** 36.8×15 **c** 6.8×32 **d** 21×3.4

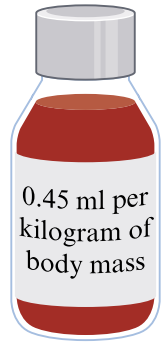
e 43×32.1 **f** 61.4×31 **g** 19.8×36 **h** 73×24.3

12 An antibiotic for 'dog flu' is given every 24 hours.

The dosage is based on the body mass of the dog.

How much will be given to dogs with these weights?

a 8 kg **b** 24 kg **c** 39 kg



13 Work these out.

a 5.1×8.9 **b** 5.8×31.5 **c** 13.46×5.6 **d** 27.4×4.8

e 25.9×3.17 **f** 6.07×14.9 **g** 2.9×5.05 **h** 4.14×3.7

i 72.61×0.29 **j** 0.62×8.53 **k** 4.811×1.7 **l** 0.455×8.4

14 These are the prices of vegetables on one stall at the local farmer's market.

Round your answers to the nearest penny.

Potatoes	£1.45 a kg
Cabbages	49p each
Beans	£3.78 a kg
Carrots	£1.70 a kg
Cauliflower	79p each

a Mrs Graham buys 2.5 kg potatoes, 1.5 kg beans and a cauliflower.

How much does she pay the stallholder for her vegetables?

b Mr Yates buys 2 cabbages, 3.5 kg potatoes and 2 kg carrots.

How much more or less does he pay for his shopping than Mrs Graham?

15 **a** What area of carpet will be needed to cover a sitting-room floor measuring 5.25 m by 4.3 m?

b The carpet costs £21.70 per square metre.
How much will the carpet cost?
Round your answer to the nearest 10 pence.

explanation 4a | explanation 4b | online

16 Work out these divisions.

a 202.3 ÷ 7 **b** 188.32 ÷ 8 **c** 189.8 ÷ 13 **d** 388.8 ÷ 16

e 786.6 ÷ 23 **f** 7721.6 ÷ 32 **g** 8162.4 ÷ 24 **h** 1755.6 ÷ 38

17 Eight friends go out for a meal. The bill came to £117.20.

a How much would they each pay if they shared the costs equally?

b Two friends had more expensive meals, so they paid £17.50 each.

The rest shared the remaining bill. How much did they each have to pay?

18 Rita has 38 weeks to save £1402.20 for her summer holiday.

a If she saves the same amount each week, how much must she save a week?

b Rita saved £39.50 each week for 20 weeks.

What is the minimum amount she must save for each of the remaining weeks to pay for her holiday?

19 Which calculation is equivalent to the given calculation?

a 94 ÷3.4 **A** 94 ÷ 34 **B** 940 ÷ 3.4 **C** 940 ÷ 34 **D** 9400 ÷ 34

b 386 ÷ 7.9 **A** 386 ÷ 79 **B** 3860 ÷ 7.9 **C** 3860 ÷ 79 **D** 38 600 ÷ 79

c 372.4 ÷ 5.6 **A** 3724 ÷ 5.6 **B** 3724 ÷ 56 **C** 37 240 ÷ 56 **D** 37 240 ÷ 5.6

d 12.56 ÷ 0.55 **A** 125.6 ÷ 55 **B** 1256 ÷ 5.5 **C** 12 560 ÷ 55 **D** 1256 ÷ 55

20 Work these out.

a 117 ÷ 2.6 **b** 378 ÷ 4.2 **c** 425 ÷ 1.7 **d** 238 ÷ 2.8

e 145 ÷ 2.5 **f** 144 ÷ 1.6 **g** 189 ÷ 0.9 **h** 212 ÷ 0.4

21 Work these out.

a 32.5 ÷ 2.5 **b** 36.8 ÷ 1.6 **c** 47.6 ÷ 1.4 **d** 61.2 ÷ 0.9

e 87.4 ÷ 2.3 **f** 117.6 ÷ 2.1 **g** 159.9 ÷ 1.3 **h** 353.6 ÷ 1.6

i 30.25 ÷ 0.25 **j** 5.04 ÷ 0.12 **k** 7.56 ÷ 2.1 **l** 3.42 ÷ 1.8

22 Dean's car used 34.6 litres of petrol to travel to Scotland.

On average his car travelled 12.2 km per litre of petrol.

How far did he travel?

23 A carton containing packets of biscuits weighs 4.5 kg.

The carton weighs 0.9 kg. Each packet of biscuits weighs 0.4 kg.

How many packets of biscuits does the carton hold?

24 The diagram shows how every £1 from the sale of diesel is split.

a If diesel costs £1.13 per litre, how much is earned by each of these from one litre?

i duty **ii** the producer

iii tax **iv** the retailer

Round your answers to the nearest penny.

b Dylan spent £35.64 on diesel.

How much of that was duty?

c On one sale a retailer earned £2.55.

How many litres of diesel were sold?