Written methods

- Adding, subtracting, multiplying and dividing with whole numbers and decimals

Keywords

You should know

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

explanation 1

1 Julie buys a book for £12.89 and a magazine for £3.37
How much did she spend?

12.89
+ 3.37

2 Work out these sums.

    a 12.1 + 13.6   **b** 26.3 + 38.5   **c** 86.4 + 3.9

    d 41.8 + 9.2   **e** 34.9 + 3.06   **f** 459.7 + 28.36

    g 69 + 837.26   **h** 0.38 + 640.99   **i** 245.04 + 354.98

3 Peter works part-time in a shop. Last week he worked for 1 hour on Wednesday, 2.25 hours on Saturday and 1.5 hours on Sunday. How many hours, in total, did he work?

2.25
1.50
+ 1.00

4 Work these out.

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

    c 102 + 19.62 + 0.04   **d** 1312 + 106.04 + 13.1

    e 1406.7 + 19.38 + 1.06   **f** 26.9 + 0.1 + 127 + 3.88

explanation 2a   explanation 2b

5 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** 549.15 − 372.38

6 Tariq buys a sandwich for £2.79. He pays with a £5 note.
How much change should he get?

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  5.00
- 2.79
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7 Olivia is trying to work out this calculation.
Explain her mistake. What is the correct answer?

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  28.79
- 15.93
  13.26
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8 Work these out.

   a $38.7 + 123.9 - 3.4$

   b $21.46 + 38.02 - 4.15$

   c $436.7 - 24.5 - 36.1$

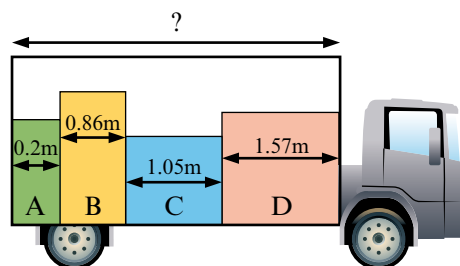   **d** $64.89 - 21.4 - 16.73$

> You will need to do two
> calculations for each of these.

9 a Peter is 1.80 m tall, Rosie is 1.76 m tall and Shaf is 1.69 m tall.

    What is the total of their heights?

  b Raj buys four apples. The apples weigh 0.15 kg, 0.21 kg, 0.09 kg and 0.2 kg.

    How much do the four apples weigh in total?

  c Four crates, A, B, C and D fill the
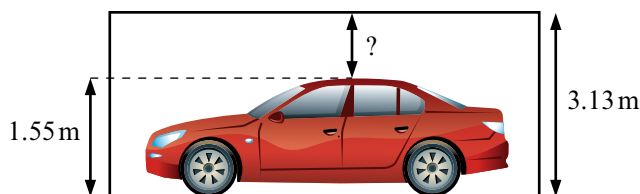   back of a lorry.

    Crate A is 0.2 m long,
    crate B is 0.86 m long,
    crate C is 1.05 m long and
    crate D is 1.57 m long.

    How long is the back of the lorry?

  d Cosima parks her car in the garage.

    The garage is 3.13 m high.
    Her car is 1.55 m tall.
    How much space is there
    between the roof of the
    car and the ceiling?

explanation 3a   explanation 3b

Work these out. Show your method.

10 **a** 370 × 42   **b** 123 × 15   **c** 248 × 39   **d** 627 × 99

   e 27 × 725   **f** 96 × 203   **g** 716 × 81   **h** 84 × 317

   i 184 × 35   **j** 521 × 18   **k** 176 × 121   **l** 133 × 24

11 Work these out, showing your method.

   a David reads 14 books with 89 pages each.
       How many pages, in total, did he read?

   b Ravenna makes £437 a week.
       How much does she make in a year?

   c Pieter can type 48 words each minute.
       How many words can he type in 3 hours?

   d A box of Chocomonsters contains 57 sweets.
       A case of Chocomonsters contains 16 boxes.
       How many sweets are in a case?

explanation 4a   explanation 4b

12 Work out each answer exactly. Show your method.

   a 3 × 2.5   **b** 8 × 4.1   **c** 9 × 4.7

   d 3 × 28.9   **e** 7 × 12.4   **f** 6 × 14.6

   g 4 × 6.8   **h** 5 × 3.62   **i** 7 × 0.04

13 **a** A single bus journey costs 90p.
       Sophie takes four separate bus journeys.
       How much does she spend?

   b A bus day pass costs £3.
       How much would Sophie
       save if she bought a pass?

14 **a** 56.4 g of cake mix makes one cupcake.
How much cake mix is needed for 62 cupcakes?

b A pencil costs 18p. How much would 86 pencils cost?

c A magazine costs £2.42 per month. How much will it cost each year?

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

> Remember area = length × width

15 Work out the area of these squares.

a   16.2 cm

b   12.5 m

explanation 5

16 Work these out.

    a $322 \div 23$ **b** $192 \div 16$ **c** $273 \div 21$ **d** $396 \div 18$

    e $675 \div 27$ **f** $481 \div 13$ **g** $648 \div 24$ **h** $527 \div 31$

17 Work these out without using a calculator.

a 312 pupils went on a school trip. A school bus can carry 24 pupils.
How many school buses were needed?

b A box of biscuits can hold 32 biscuits.
How many boxes are needed for 416 biscuits?

c Martha is driving 357 miles from Manchester to Aberdeen.
She is driving at 51 miles per hour.
How long will the trip take her at this speed?