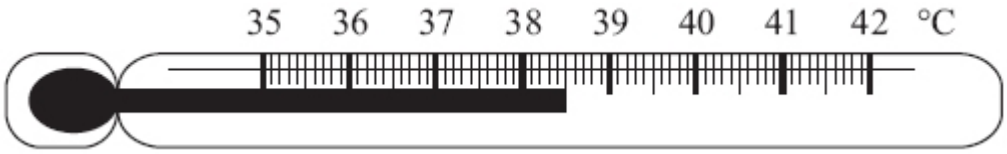
Foundation tier unit 8-1 check in test

Calculator

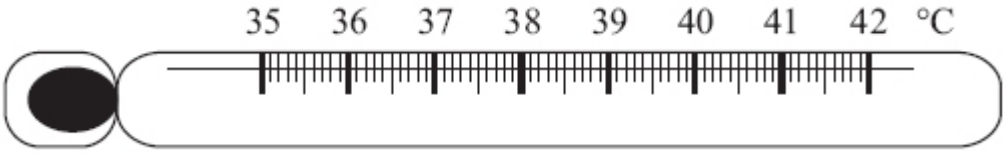
Q1. Choose the best estimate for the weight of a banana.

A 15 g
B 150 g
C 1.5 kg
D 15 kg

Q2. Mason is ill.
The diagram shows Mason's body temperature, in °C, on a thermometer.



Mason's body temperature drops by 1.2 °C.
Show Mason's new body temperature on the thermometer below.



Q3. Fran is decorating her bedroom.
She is going to put a border all around the bedroom.
This diagram shows a plan of the bedroom.

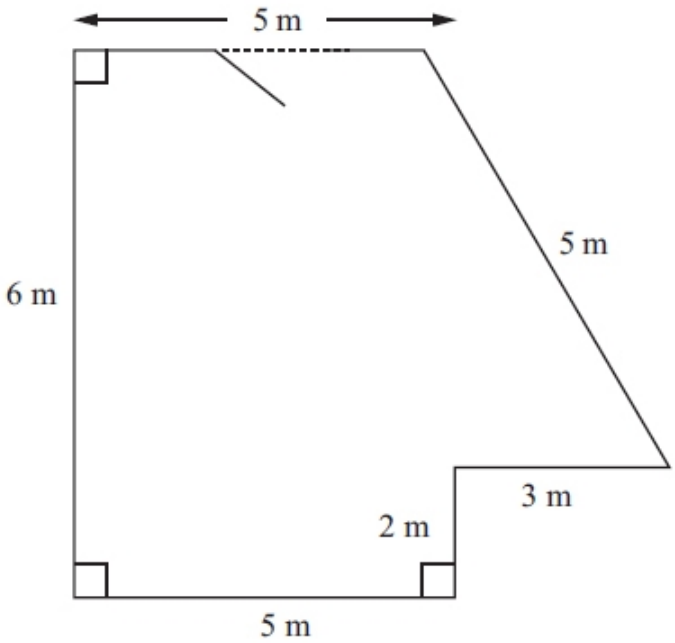
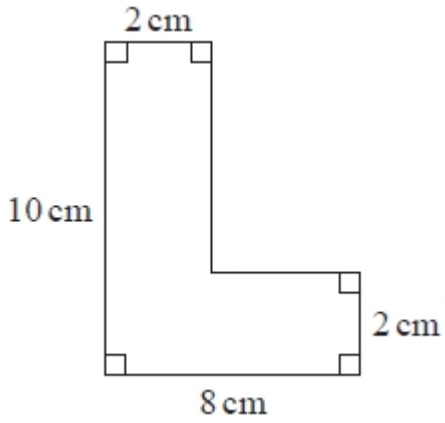


Diagram **NOT** accurately drawn

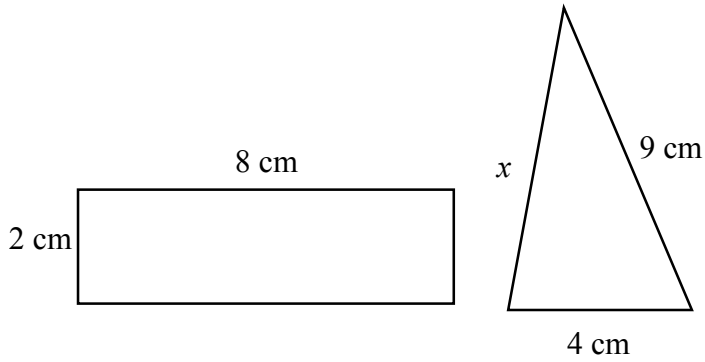
Border rolls are sold in 4 m lengths.
Work out the number of border rolls Fran will need to buy.

Q4. A room is in the shape of a rectangle, 5 m by 8 m.
Work out the area of the room in square centimetres.

Q5. Work out the area of the shape.

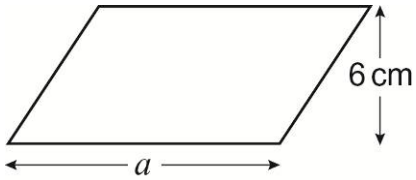


Q6. The diagram shows a rectangle and a triangle.



The perimeter of the rectangle is the same as the perimeter of the triangle.
Work out the length of the side marked x.

Q7. The area of this parallelogram is 48 cm^2.
Work out the length a.



Q8. *ABDE* is a rectangle.
ED is 8cm.

BDC is a right-angled triangle.
BC is 4.5cm.

ABC is a straight line.

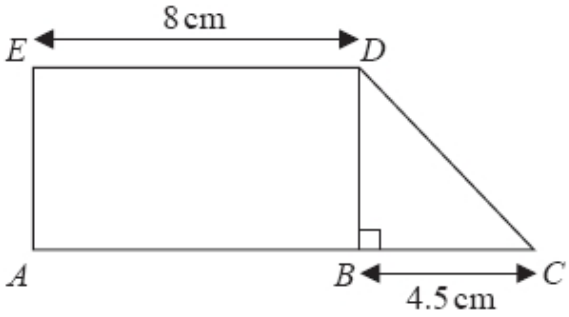


Diagram **NOT** accurately drawn

The area of the rectangle *ABDE* is 40cm^2.
Work out the area of the triangle *BDC*.

Q9. A factory makes 1500 cans per minute.
The factory makes cans for 8 hours each day.
Each can is filled with 330 m*l* of cola.

How much cola is needed to fill all the cans that are made each day?
Give your answer in litres.

Q10. Here is a diagram of Jim's garden.

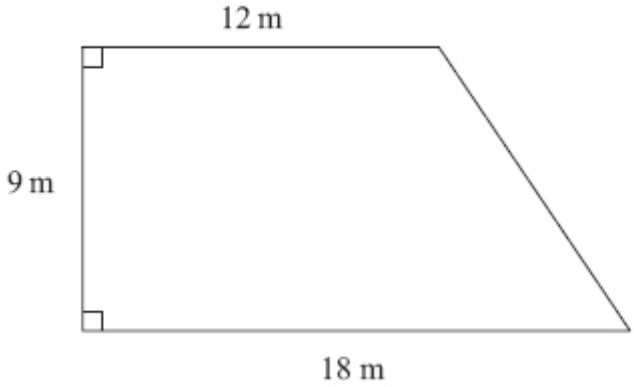


Diagram **NOT** accurately drawn

Jim wants to cover his garden with grass seed to make a lawn.

Grass seed is sold in bags.
There is enough grass seed in each bag to cover 20 m^2 of garden.
Each bag of grass seed costs £4.99.

Work out the least cost of putting grass seed on Jim's garden.

Topics listed in objectives

- Indicate given values on a scale, including decimal value;
- Know that measurements using real numbers depend upon the choice of unit;
- Convert between units of measure within one system, including time and metric units to metric units of length, area, capacity
- Make sensible estimates of a range of measures in everyday settings;
- Measure shapes to find perimeters and areas using a range of scales;
- Find the perimeter of
  - rectangles and triangles;
  - parallelograms and trapezia;
  - compound shapes;
- Recall and use the formulae for the area of a triangle and rectangle;
- Find the area of a trapezium and recall the formula;
- Find the area of a parallelogram;
- Calculate areas and perimeters of compound shapes made from triangles and rectangles;

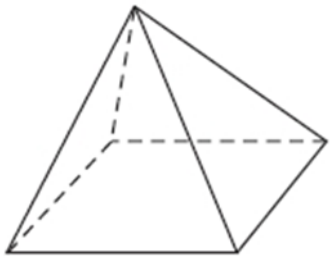
Answers

Q1. B
Q2. temperature at 37.3 °C
Q3. 7 border rolls
Q4. 400 000 cm²
Q5. 32 cm²
Q6. 7 cm
Q7. $a = 8$ cm
Q8. 11.25 cm²
Q9. 237 600 *l*
Q10. £34.93

Foundation tier unit 8-2 check in test

Calculator

Q1. What is the mathematical name of this solid?



Q2. Change 27 000 cm^3 to litres.

Q3. Here is a cuboid.

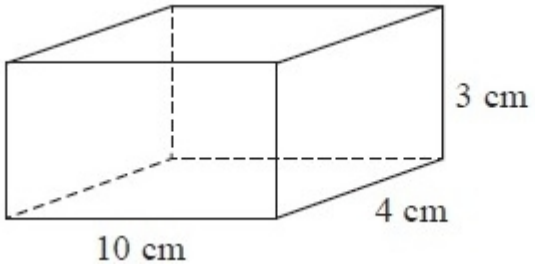
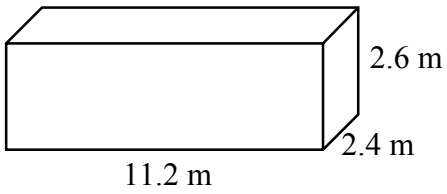


Diagram **NOT** accurately drawn

Work out the volume of the cuboid.

Q4. Here is a cuboid.



By rounding to 1 significant figure, estimate the volume of the cuboid.

Q5. Here is a triangular prism.

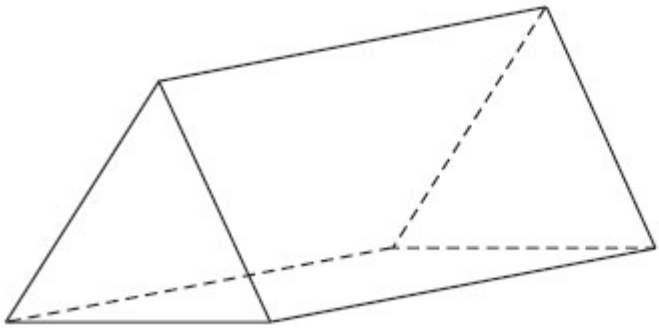
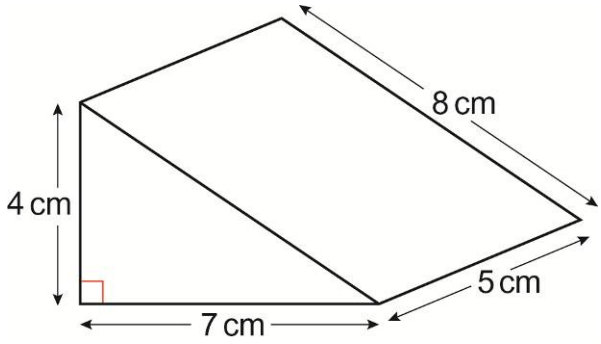


Diagram **NOT** accurately drawn

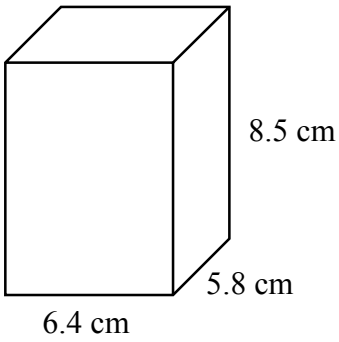
Draw a sketch of a net for the triangular prism.

Q6. The diagram shows a triangular prism.



Calculate the volume of the prism.

Q7. Here is a cuboid.



By rounding to 1 significant figure, estimate the total surface area of the cuboid.

Q8. The diagram shows a triangular prism.

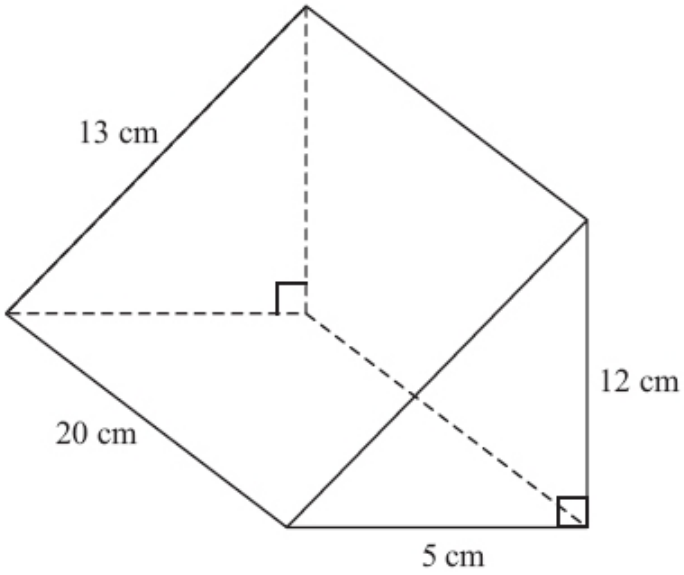


Diagram **NOT** accurately drawn

Work out the total surface area of the prism.

Q9. Here is a solid prism.

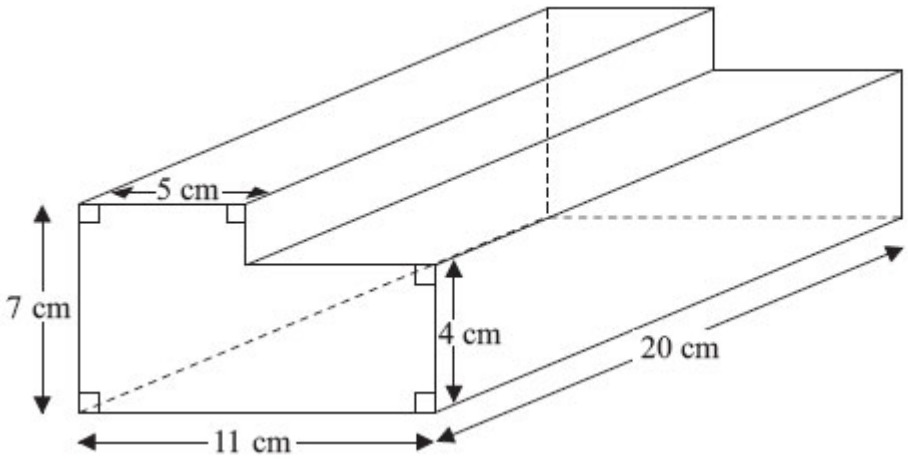


Diagram **NOT** accurately drawn

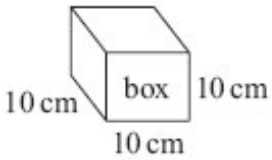
Work out the volume of the prism.

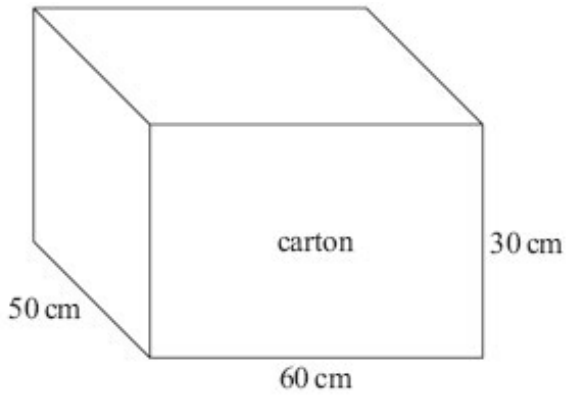
Q10. Terry fills a carton with boxes.

Each box is a cube of side 10 cm.

The carton is a cuboid with

length	60 cm
width	50 cm
height	30 cm





Diagrams **NOT** accurately drawn

Work out the number of boxes Terry needs to fill one carton completely.

Topics listed in objectives

- Convert between units of measure within one system, including metric units of volume and capacity e.g. 1ml = 1cm^3;
- Estimate surface areas by rounding measurements to 1 significant figure;
- Find the surface area of a prism;
- Find surface area using rectangles and triangles;
- Identify and name common solids: cube, cuboid, cylinder, prism, pyramid, sphere and cone;
- Sketch nets of cuboids and prisms;
- Recall and use the formula for the volume of a cuboid;
- Find the volume of a prism, including a triangular prism, cube and cuboid;
- Calculate volumes of right prisms and shapes made from cubes and cuboids;
- Estimate volumes etc by rounding measurements to 1 significant figure;

Answers

Q1. square-based pyramid
Q2. 27 *l*
Q3. 120 cm³
Q4. 60 m³
Q5. correct net
Q6. 70 cm³
Q7. 288 cm²
Q8. 660 cm²
Q9. 1180 cm³
Q10. 90 boxes