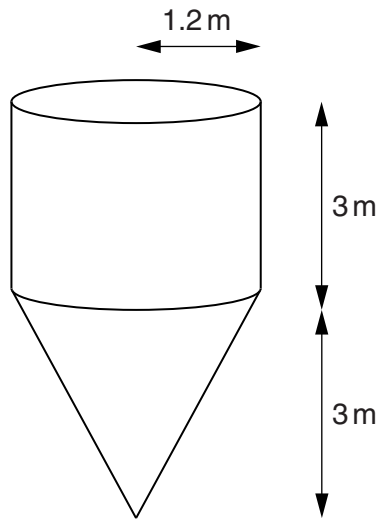


- 1 A grain store is a hollow cylinder joined to a hollow cone.
The cylinder and cone each have radius 1.2m and height 3m.

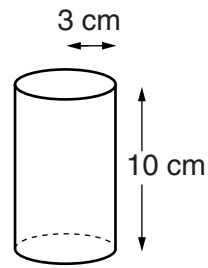
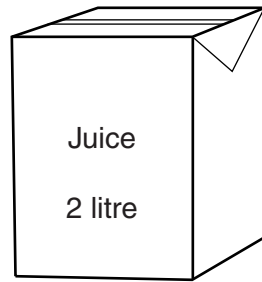


The grain store is full of grain.
The grain has a density of 0.79 tonnes per cubic metre.

Work out the total mass of the grain.

_____ tonnes [7]

- 2 A drinking glass is a cylinder of radius 3 cm and height 10 cm.



How many times can the glass be filled from a 2 litre carton of juice?
Show your working clearly.

[5]

3 Mark is organising a party for his group of 17 Scouts.

(a) (i) Each Scout will need $\frac{3}{4}$ of a pizza.

How many pizzas should Mark buy?

(a)(i) _____ [3]

(ii) The pizzas normally cost £2.60 each.
Mark is given a discount of 15% off this price.

How much does Mark pay for each pizza?

(ii) £ _____ [3]

(b) The area of the base of a can of lemonade is 32.4 cm^2 .

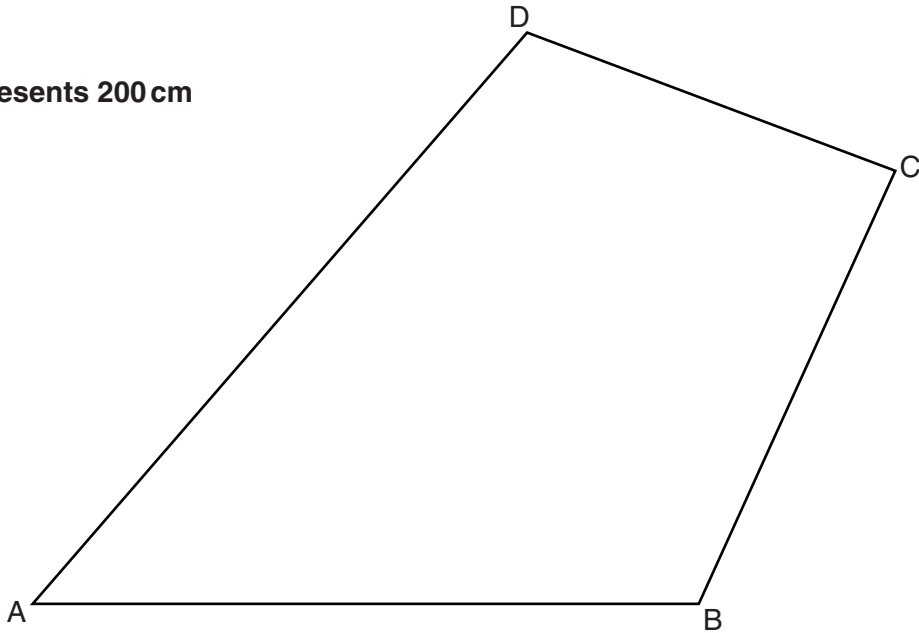
What is this area in mm^2 ?

(b) _____ mm^2 [2]

- 4 In this question, use a ruler and a pair of compasses.
Leave in your construction lines.

The scale drawing ABCD shows Neil's garden.
AB is the wall of Neil's house.

Scale: 1 cm represents 200 cm



Construct the perpendicular from D to AB.
Hence find the shortest actual distance, in metres, from corner D of the garden to the house.

_____ m [4]