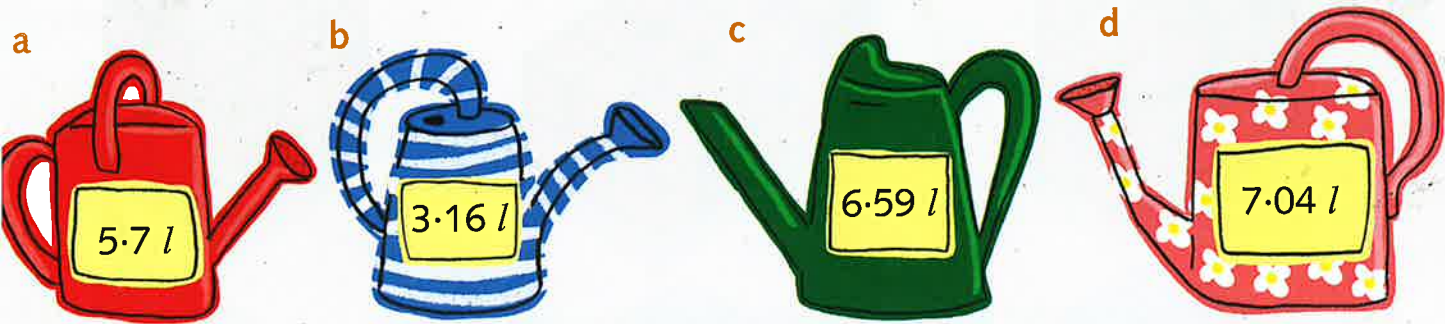# board problems

olve problems involving volume and capacity, including scaling

Calculate how many millilitres of water each watering can holds.

a   b   c   d

5·7 *l*   3·16 *l*   6·59 *l*   7·04 *l*

1   A cruise liner takes 7 days to sail from Cape Town to Gibraltar and uses 3800 litres of fuel per day. If the ship had 28 000 litres of fuel on board at the start of the voyage, how much fuel was left in the tanks when she reached Gibraltar?

2   The chef has prepared 60 litres of minestrone soup for lunch. Each bowl of soup is 200 ml.
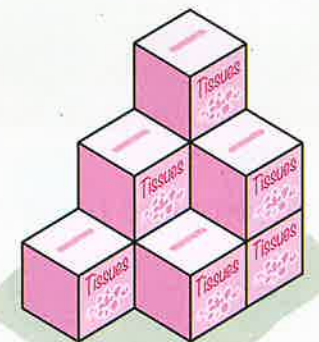
a   How many passengers could have a bowl of soup?

b   At the end of lunch there are 7·6 litres of soup left over. How many passengers had soup at lunchtime?

3   One of the kitchen staff is making whipped cream. Each carton holds 500 ml of cream. How many cartons of cream are needed to make:

a   12·5 *l* of whipped cream?

b   25 *l* of whipped cream?

c   50 *l* of whipped cream?

4   a   Work out the least number of boxes of tissues that Lisa must add to make this display of boxes into a cuboid.

b   The volume of one box is 50 cm³. What is the total volume of the cuboid?

5   The table shows the different bottles of spring water that the passengers ordered in one week.

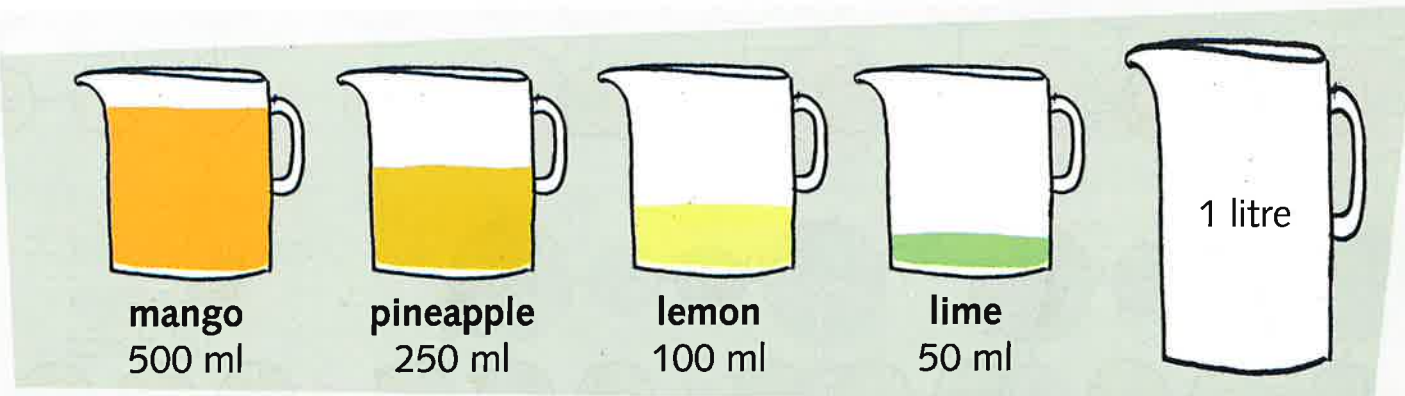How many litres of spring water were ordered in:

Size of bottle	Number of bottles
500 ml	2500
1 *l*	1400
1·5 *l*	600

a   500 ml bottles?

b   1·5 *l* bottles?

c   all three sizes of bottle?

Challenge 3

At the poolside soft drinks bar the attendant has these amounts of fruit juice and a 1 litre measuring jug.

mango 500 ml   pineapple 250 ml   lemon 100 ml   lime 50 ml   1 litre

a   The attendant says, "I can make 11 different mixed fruit drinks by pouring 2 or more of these measured amounts of fruit juice into an empty 1 litre jug." Is she correct? Investigate.

b   For each mixed fruit drink the attendant tops up the jug to the 1 litre mark with orange juice. How many millilitres of orange juice does she add for each fruit drink?