CHAPTER 8: LENGTH, MASS & VOLUME

Level 1

Exercise 1

1. Fill in the blanks with cm, m, km, g, kg, m*l* or *l*.

   (a) The capacity of a water bottle is 500 _____.

   (b) The mass of a pencil box is about 350 _____.

   (c) A baby weighs about 5 _____.

   (d) The distance from David's home to Orchard Road is about 10 _____.

   (e) A stapler is about 8 _____ long.

   (f) When a water tank is filled to the brim with water, the volume of water in the tank is about 10 _____.

   (g) The length of the table is 2 _____.

   (h) A school bag has a mass of about 3 _____.

   (i) A tree in the garden is about 5 _____ tall.

   (j) Every morning, Nicholas walks a distance of about 2 _____ from his home to the school.

2. Convert the following to centimetres.

(a) 1 m = _____ cm

(b) 2 m = _____ cm

(c) 6 m = _____ cm

(d) 9 m = _____ cm

3. Convert the following to metres.

(a) 300 cm = _____ m

(b) 500 cm = _____ m

(c) 700 cm = _____ m

(d) 800 cm = _____ m

4. Convert the following to centimetres.

(a) 1 m 54 cm = _____ cm

(b) 4 m 93 cm = _____ cm

(c) 6 m 20 cm = _____ cm

(d) 9 m 2 cm = _____ cm

5. Convert the following to metres and centimetres.

(a) 170 cm = _____ m _____ cm

(b) 328 cm = _____ m _____ cm

(c) 99 cm = _____ m _____ cm

(d) 804 cm = _____ m _____ cm

6. Convert the following to metres.

(a) 1 km = _____ m

(b) 4 km = _____ m

(c) 5 km = _____ m

(d) 8 km = _____ m

7. Convert the following to kilometres.

(a) 2000 m = _____ km

(b) 6000 m = _____ km

(c) 7000 m = _____ km

(d) 10 000 m = _____ km

8. Convert the following to metres.

(a) 1 km 240 m = _____ m

(b) 2 km 10 m = _____ m

(c) 3 km 957 m = _____ m

(d) 4 km 16 m = _____ m

9. Convert the following to kilometres and metres.

(a) 1732 m = _____ km _____ m

(b) 1208 m = _____ km _____ m

(c) 2500 m = _____ km _____ m

(d) 3020 m = _____ km _____ m

10. Work out the missing numbers.

(a) 3 km 800 m = _____ m

(b) 2 m 90 cm = _____ cm

(c) 145 cm = _____ m _____ cm

(d) 2890 m = _____ km _____ m

Exercise 2

1. Read the scale and write the mass of the objects.

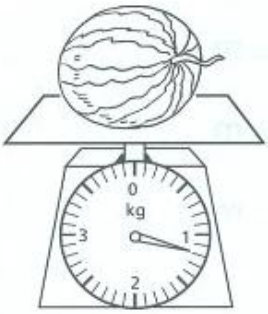
(a)

The mass of the newspaper is _____ g.

(b)

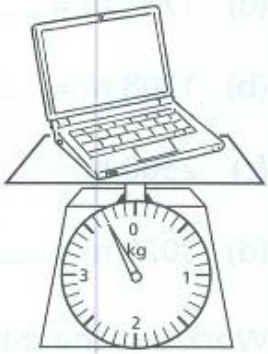
The mass of the camera is _____ g.

(c)



The mass of the watermelon is _____ g.

(d)



The mass of the laptop is _____ g.

2. Convert the following to grams.

(a) 1 kg 380 g = _____ g

(b) 2 kg 60 g = _____ g

(c) 3 kg 108 g = _____ g

(d) 4 kg 6 g = _____ g

3. Convert the following to kilograms and grams.

(a) 1180 g = _____ kg _____ g

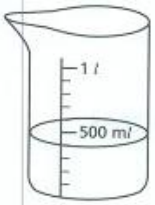
(b) 2090 g = _____ kg _____ g

(c) 3001 g = _____ kg _____ g

(d) 6008 g = _____ kg _____ g

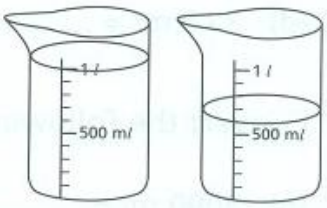
4. Read the scale and write the total volume of water in the container(s).

(a)



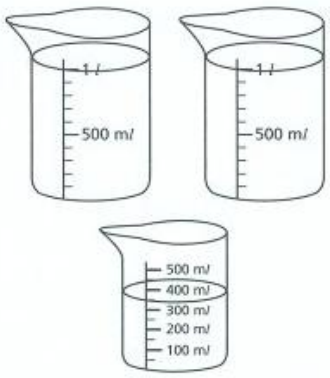
The total volume of water is _____ mℓ.

(b)



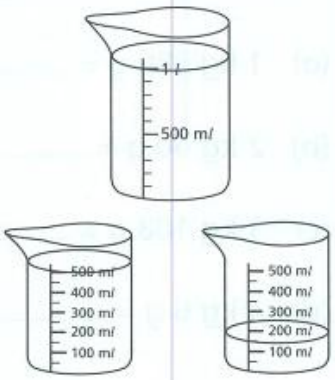
The total volume of water is _____ mℓ.

(c)



The total volume of water is _____ ml.

(d)



The total volume of water is _____ ml.

5. Convert the following to millilitres.

(a) 1 *l* 350 ml = _____ ml

(b) 1 *l* 900 ml = _____ ml

(c) 2 *l* 70 ml = _____ ml

(d) 3 *l* 5 ml = _____ ml

6. Convert the following to litres and millilitres.

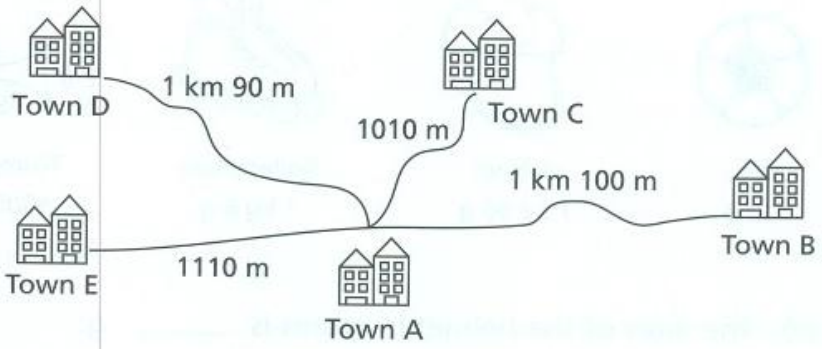
(a) 2090 ml = _____ *l* _____ ml

(b) 3681 ml = _____ *l* _____ ml

(c) 7005 ml = _____ *l* _____ ml

(d) 8100 ml = _____ *l* _____ ml

7. Look at the diagram below showing the distances between town A and four other towns.

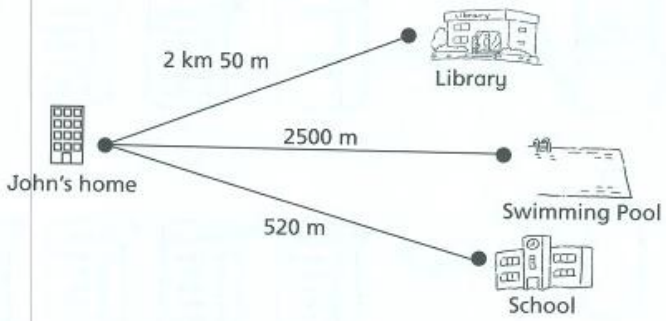


(a) The distance from town A to town B is _____ m.

(b) Which town is nearest to town A? Town _____

(c) Which town is furthest away from town A? Town _____

8. John lives in a high-rise flat.



(a) The distance from John's home to the library in metres is _____ m.

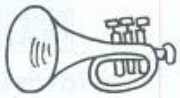
(b) Which of the three places above is furthest away from John's home? _____

9. Look at the 4 items below.

Ball
510 g

Helmet
1 kg 60 g

Rollerblade
1 kg 6 g



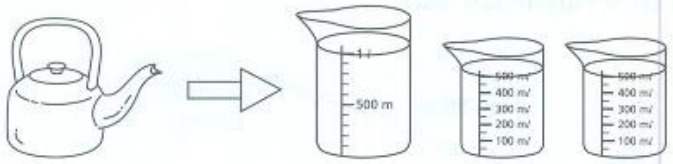
Trumpet
1005 g

(a) The mass of the helmet in grams is _____ g.

(b) The _____ is the heaviest.

(c) The _____ is the lightest.

10. The capacities of the teapot and the bottle are shown in the diagram below.



(a) The total capacity of the teapot and the bottle is

_____ *l* _____ m*l*.

(b) The difference between their capacities is _____ m*l*.

CHAPTER 8: LENGTH, MASS & VOLUME

Level 2

Exercise 1

Solve the following word problems.

1. The total mass of a book and a pencil box is 480 g. The mass of the book is 190 g. Find the mass of the pencil box.

2. The mass of a bag of apples is 600 g. The mass of a bag of lemons is 750 g. What is the total mass of the bag of apples and the bag of lemons? Give your answer in kilograms and grams.

3. A ribbon of length 205 cm is cut into 5 equal pieces. What is the length of each piece?

4. A man has 3 containers with 750 m*l* of water each. Find the total amount of water in the 3 containers and give the answer in litres and millilitres.

5. Kim Seng is 130 cm tall. His brother Leonard is 14 cm shorter than him. How tall is Leonard? Give your answer in metres and centimetres.

6. Nicholas' father is 3 times as heavy as Nicholas. Their total mass is 108 kg. How heavy is Nicholas?

7. A pupil ran 4 times around the school field during a running test. The distance of each round is 400 m. What is the distance that the pupil had run? Give your answer in kilometres and metres.

8. A pen is 4 times as heavy as a pencil. The pencil is 48 g lighter than the pen. Find the mass of the pencil.

9. There is 410 m*l* of juice in a bottle. What is the total amount of juice in 5 bottles? Give your answer in litres and milliltres.

10. A taxi driver travels a distance of 184 km every day. What is the total distance he will travel over a week?

Exercise 2

Choose the correct answer and write its number in the brackets provided.

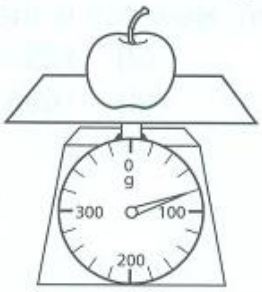
1. The cupboard is 2 _____ high.
   (1) kg (2) km
   (3) m (4) cm ( )

2. Tony stands on a weighing machine and sees that he has a mass of 45 _____.
   (1) kg (2) g
   (3) km (4) m ( )

3. The height of the flag pole is about _____.
   (1) 20 km (2) 20 cm
   (3) 20 m (4) 200 cm ( )

4. Larry is twice as heavy as Peter. Peter is 36 kg lighter than Larry. Find the total mass of Peter and Larry.
   (1) 12 kg (2) 18 kg
   (3) 72 kg (4) 108 kg ( )

5. The mass of the apple is _____ g.



(1) 90 (2) 80
(3) 40 (4) 4 ( )

6. Mrs Eng has a packet of sugar with a mass of 960 g. She poured it equally into 4 containers. Find the mass of the sugar in each container.
(1) 3840 g (2) 964 g
(3) 956 g (4) 240 g ( )

7. Ting Wen has drunk 290 m*l* of water from her water bottle. There is 675 m*l* of water left in the water bottle. How much water was there in the water bottle at first?
(1) 965 m*l* (2) 865 m*l*
(3) 425 m*l* (4) 385 m*l* ( )

8. David needs to carry 5 bags of rice home. Each bag has a mass of 19 kg. Find the total mass of the 5 bags.
(1) 64 kg (2) 95 kg
(3) 100 kg (4) 164 kg ( )

9. The distance between Jun Hong's home and his school is 645 m. He has walked 189 m from his school towards his home. How many more metres does Jun Hong need to walk to reach his home?
(1) 834 m (2) 724 m
(3) 544 m (4) 456 m ( )

10. A giraffe is 3 times as tall as a boy. The total height of the boy and the giraffe is 500 cm. How tall is the boy?

(1) 16 cm (2) 125 cm

(3) 166 cm (4) 1666 cm ( )

CHAPTER 8: LENGTH, MASS & VOLUME

Level 3

Exercise 1

Solve the following word problems.

1. Junaidi's mass is 45 kg. He is 3 kg lighter than Kumar. Find the total mass of the two boys.

2. A shopkeeper had 330 kg of rice. He sold 180 kg and packed the remaining rice equally into 5 bags. Find the mass of each bag of rice.

3. George had 5 pails. Each pail had a capacity of 12 *l*. He filled them with water to the brim and poured all the water from the pails into a water tank. He then used 29 *l* of water to bathe.
   (a) How much water did he pour into the water tank?
   (b) How much water was left after he had bathed?

4. A rope 45 m long is cut into 3 pieces. One of the pieces is 9 m long and the other two pieces are equal in length. Find the length of each of the other two pieces of rope.

5. Robbie is 139 cm tall. The total height of Robbie and his father is 313 cm. Find the difference in height between Robbie's father and Robbie.

6. A piece of butter has a mass of 250 g. A jar of jam has a mass of 340 g. What is the mass of 3 jars of jam and a piece of butter? Give your answer in kilograms and grams.

7. 3 pails of water are needed to fill up a water tank. 5 bottles of water are needed to fill up a pail. The water tank has a capacity of 30 litres. Find the capacity of a bottle.

8. Terence is 3 times as heavy as his brother. He is 48 kg heavier than his brother. What is the total mass of Terence and his brother?

9. Alicia, Beatrice and Candy have the same mass. They have a total mass of 114 kg. Find the mass of each girl.

10. Gopal bought 6 tins of paint. Each tin contained 25 litres of paint. After painting his house, he had 18 *l* of paint left. How much paint did he use to paint his house?

Exercise 2

Solve the following word problems.

1. The mass of a mango is twice the mass of an apple. The mass of a papaya is twice the mass of the mango. The total mass of the three fruits is 560 g. Find the mass of the papaya.

2. Sean is 4 cm taller than Gopal. Sean is 11 cm shorter than Tohari. Tohari is 140 cm tall. Find Gopal's height.

3. There are three bottles of fruit juice, bottle A, bottle B and bottle C. The capacity of bottle C is 250 m*l* less than the capacity of bottle A. The capacity of bottle C is 250 m*l* more than the capacity of bottle B. Bottle B has a capacity of 600 m*l*. What is the capacity of bottle A? Give your answer in litres and millilitres.

4. The total mass of Billy, Richie and Michael is 117 kg. Richie is 3 times as heavy as Michael. Billy has a mass of 33 kg. Find the mass of Michael.

5. A table and a chair have a total mass of 21 kg. The table is 3 kg heavier than the chair. Find the mass of the table.

6. Julia and Hazel have a total mass of 81 kg. Julia is 9 kg heavier than Hazel. Find the mass of Hazel.

7. Poh Seng and Yi Wei have a total mass of 103 kg. Yi Wei is 5 kg heavier than Poh Seng. What is Yi Wei's mass?

8. Look at the two beakers below.

Beaker A Beaker B

How much water must be poured from beaker A to beaker B so that both beakers would have the same amount of water?

9. Mrs Lee has 630 g of red beans. Mrs Chin has 40 g of red beans. How much red beans must Mrs Lee give to Mrs Chin so that both of them would have the same mass of red beans?

10. A container with 8 marbles has a mass of 155 g. The same container with 5 marbles has a mass of 110 g. Find the mass of each marble.