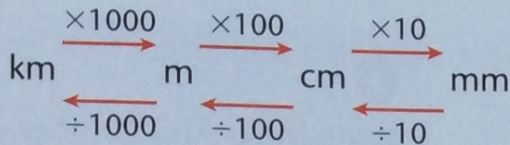


TARGET To convert between standard units of length, mass and capacity and between miles and kilometres.

UNITS OF LENGTH



1 mile = 1.6 km

8 km = 5 miles

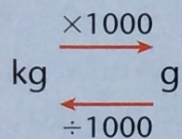
Examples

3 km 517 m = 3517 m = 3.517 km

2 m 96 cm = 296 cm = 2.96 m

1 cm 4 mm = 14 mm = 1.4 cm

UNITS OF MASS



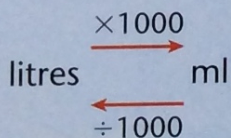
Examples

2 kg 700 g = 2700 g = 2.7 kg

6 kg 390 g = 6390 g = 6.39 kg

0 kg 105 g = 105 g = 0.105 kg

UNITS OF CAPACITY



Examples

1 litre 250 ml = 1250 ml = 1.25 litres

4 litres 600 ml = 4600 ml = 4.6 litres

5 litres 825 ml = 5825 ml = 5.825 litres

A

Copy and complete.

1 2 cm 4 mm = mm = cm

2 0 m 76 cm = cm = m

3 15 km 200 m = m = km

4 0 kg 800 g = g = kg

5 1 litre 100 ml = ml = litres

6 0 cm 6 mm = mm = cm

7 3 m 15 cm = cm = m

8 0 km 300 m = m = km

9 8 kg 290 g = g = kg

10 0 litres 900 ml = ml = litres

11 110 mm = cm mm = cm

12 238 cm = m cm = m

13 4700 m = km m = km

14 12 600 g = kg g = kg

15 520 ml = litres ml = litres

16 359 mm = cm mm = cm

17 720 cm = m cm = m

18 2650 m = km m = km

19 530 g = kg g = kg

20 9400 ml = litres ml = litres

Change to km.

21 9 miles

22 35 miles

23 80 miles

24 67 miles

Change to miles

25 32 km

26 60 km

27 96 km

28 44 km

B

Copy and complete.

- 1 $4.35 \text{ m} = \square \text{ m } \square \text{ cm} = \square \text{ cm}$
- 2 $0.027 \text{ m} = \square \text{ m } \square \text{ mm} = \square \text{ mm}$
- 3 $16.88 \text{ km} = \square \text{ km } \square \text{ m} = \square \text{ m}$
- 4 $0.06 \text{ kg} = \square \text{ kg } \square \text{ g} = \square \text{ g}$
- 5 $3.1 \text{ litres} = \square \text{ litres } \square \text{ ml} = \square \text{ ml}$
- 6 $0.7 \text{ m} = \square \text{ cm} = \square \text{ m } \square \text{ cm}$
- 7 $0.18 \text{ m} = \square \text{ mm} = \square \text{ m } \square \text{ mm}$
- 8 $5.296 \text{ km} = \square \text{ m} = \square \text{ km } \square \text{ m}$
- 9 $0.435 \text{ kg} = \square \text{ g} = \square \text{ kg } \square \text{ g}$
- 10 $0.002 \text{ litres} = \square \text{ ml} = \square \text{ litres } \square \text{ ml}$
- 11 $809 \text{ cm} = \square \text{ m } \square \text{ cm} = \square \text{ m}$
- 12 $2536 \text{ mm} = \square \text{ m } \square \text{ mm} = \square \text{ m}$
- 13 $48 \text{ m} = \square \text{ km } \square \text{ m} = \square \text{ km}$
- 14 $1727 \text{ g} = \square \text{ kg } \square \text{ g} = \square \text{ kg}$
- 15 $93 \text{ ml} = \square \text{ litres } \square \text{ ml} = \square \text{ litres}$
- 16 $6 \text{ cm} = \square \text{ m} = \square \text{ m } \square \text{ cm}$
- 17 $374 \text{ mm} = \square \text{ m} = \square \text{ m } \square \text{ mm}$
- 18 $519 \text{ m} = \square \text{ km} = \square \text{ km } \square \text{ m}$
- 19 $68 \text{ g} = \square \text{ kg} = \square \text{ kg } \square \text{ g}$
- 20 $12\,130 \text{ ml} = \square \text{ litres} = \square \text{ litres } \square \text{ ml}$

Change to km.

Change to miles.

- | | |
|----------------|------------|
| 21 22.9 miles | 25 5.4 km |
| 22 9.3 miles | 26 180 km |
| 23 157.2 miles | 27 17.6 km |
| 24 314.4 miles | 28 78 km |

CCopy and complete by putting $>$, $<$ or $=$ in each box.

- 1 $700 \text{ g} \square 0.007 \text{ kg} \square 70 \text{ g}$
- 2 $900 \text{ m} \square 900\,000 \text{ mm} \square 0.009 \text{ km}$
- 3 $0.004 \text{ litres} \square 4 \text{ ml} \square 0.04 \text{ litres}$
- 4 $30 \text{ m} \square 30\,000 \text{ cm} \square 0.3 \text{ km}$
- 5 $8000 \text{ ml} \square 0.8 \text{ litres} \square 800 \text{ ml}$
- 6 $0.2 \text{ cm} \square 0.02 \text{ m} \square 200 \text{ mm}$
- 7 $0.06 \text{ kg} \square 60 \text{ g} \square 0.006 \text{ kg}$
- 8 $50\,000 \text{ mm} \square 0.05 \text{ km} \square 50\,000 \text{ cm}$

Change to km.

Change to miles.

- | | |
|----------------|------------|
| 9 0.92 miles | 13 155 km |
| 10 219.3 miles | 14 41.8 km |
| 11 6.77 miles | 15 23.4 km |
| 12 138.6 miles | 16 87 km |

- 17 The combined weight of 12 identical bricks is 9.45 kg. What does one brick weigh in grams?

- 18 France has 1950 miles of coastline and land borders 2889 km long. Give the length of the country's perimeter in:

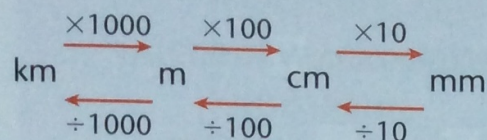
- a) miles
- b) kilometres.



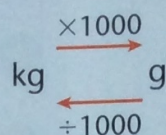
- 19 A serving of custard is 135 ml. How much custard is needed for 18 servings? Give your answer in litres.

TARGET To convert between standard units of length, mass and capacity.

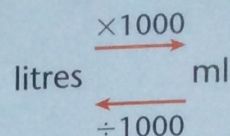
UNITS OF LENGTH



UNITS OF MASS



UNITS OF CAPACITY



A

Copy and complete.

- 1 5000 m = km
- 2 1800 m = km
- 3 3.5 km = m
- 4 2.9 km = m
- 5 640 cm = m
- 6 25 cm = m
- 7 0.48 m = cm
- 8 9.36 m = cm
- 9 2 mm = cm
- 10 71 mm = cm
- 11 54 cm = mm
- 12 0.8 cm = mm
- 13 0.6 kg = g
- 14 3.2 kg = g
- 15 970 g = kg
- 16 4050 g = kg
- 17 1.6 litres = ml
- 18 8.2 litres = ml
- 19 300 ml = litres
- 20 7900 ml = litres

Change to:

- | | miles | km |
|----|-------|--------------|
| 21 | 40 km | 25 2 miles |
| 22 | 72 km | 26 30 miles |
| 23 | 12 km | 27 100 miles |
| 24 | 28 km | 28 11 miles |

B

Copy and complete.

- 1 2168 m = km
- 2 359 m = km
- 3 7.708 km = m
- 4 0.063 km = m
- 5 29 cm = m
- 6 580 cm = m
- 7 0.07 m = cm
- 8 4.11 m = cm
- 9 153 mm = m
- 10 8 mm = m
- 11 6.49 m = mm
- 12 0.072 m = mm
- 13 3.456 kg = g
- 14 0.002 kg = g
- 15 179 g = kg
- 16 3 g = kg
- 17 0.6 litres = ml
- 18 8.01 litres = ml
- 19 2400 ml = litres
- 20 75 ml = litres

Change to:

- | | miles | km |
|----|---------|---------------|
| 21 | 36 km | 25 4.8 miles |
| 22 | 50 km | 26 62.5 miles |
| 23 | 124 km | 27 8 miles |
| 24 | 69.2 km | 28 250 miles |

C

Copy and complete by putting >, < or = in the box.

- 1 10 cm 0.09 m
- 2 1641 mm 16.41 m
- 3 50 g 0.05 kg
- 4 2288 ml 2.8 litres
- 5 3000 mm 0.003 km
- 6 1440 cm 0.04 km
- 7 25 g 0.025 kg
- 8 38 ml 0.008 litres

Convert to miles

- 9 47 km
- 11 73 km
- 10 9.4 km
- 12 53.8 km

Convert to kilometres.

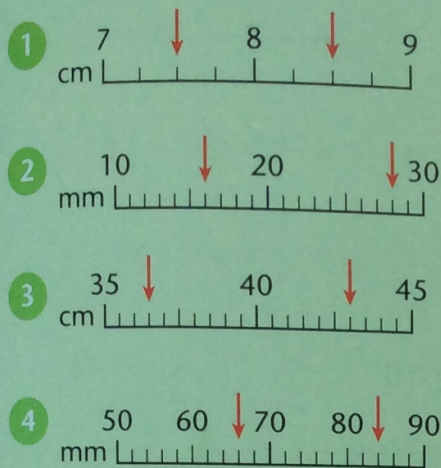
- 13 1562 miles
- 14 284.6 miles
- 15 65.77 miles
- 16 12.29 miles
- 17 Each nail weighs 3.85 g. There are 24 nails in a packet. What is the total weight of the nails in 60 packets in kilograms?
- 18 A lorry travels 263 km in Belgium and 172 miles in England. How much longer in miles is the English journey?

TARGET To read, write and convert between standard metric units.

A

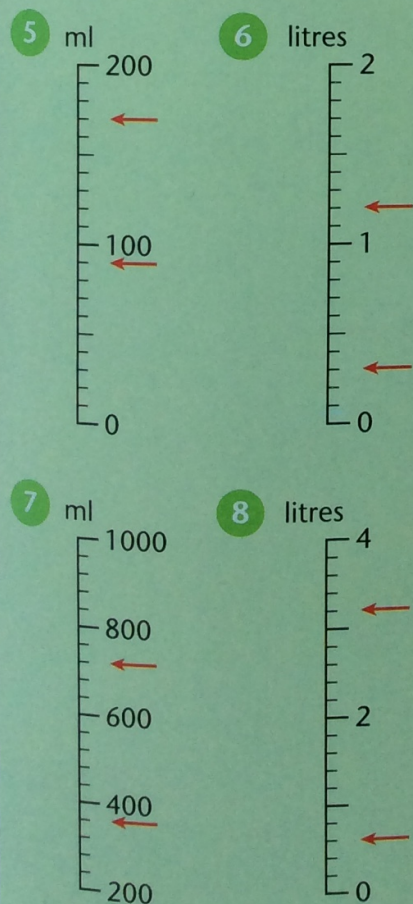
Give the measurement shown by each arrow as:

a) mm b) cm.



Give the measurement shown by each arrow as:

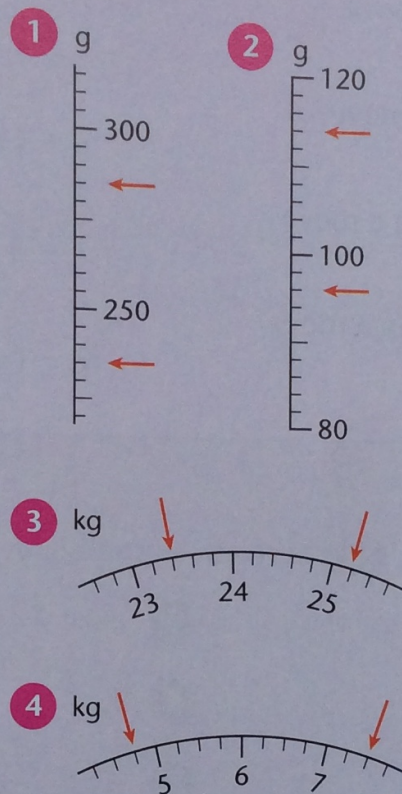
a) ml b) litres.



B

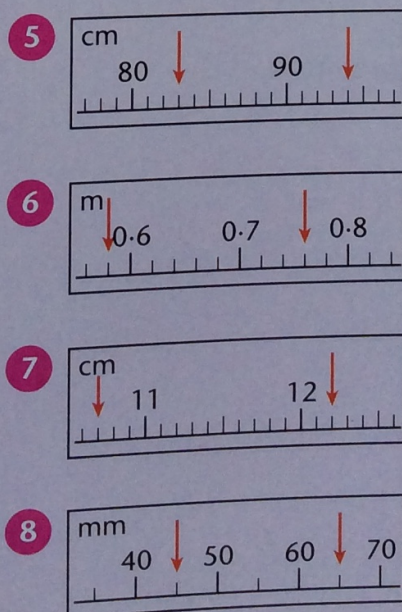
Give the measurement shown by each arrow as:

a) grams b) kg.



Give the measurement shown by each arrow as:

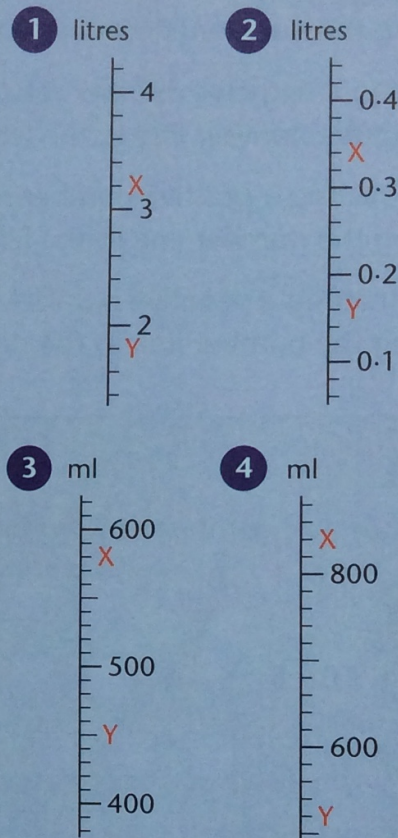
a) cm b) metres.



C

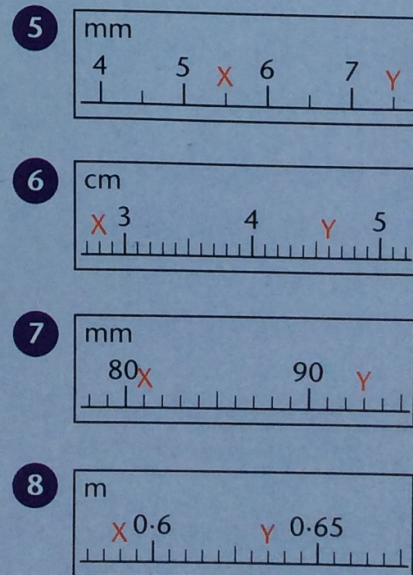
Give the difference between X and Y as:

a) ml b) litres.



Give the difference between X and Y as:

a) mm b) metres.



TARGET To solve word problems involving measures.

Example

An apple pie weighs 0.8 kg. It is cut into five equal slices. Two are eaten. What is the weight of the remaining pie?

$$\begin{aligned}0.8 \text{ kg} &= 800 \text{ g} \\800 \div 5 &= 160 \\160 \times 3 &= 480 \\ \text{Answer } &480 \text{ g is left.}\end{aligned}$$



A

- 1 Stella has a 6 m ball of string. One quarter is cut off. How much does she have left?
- 2 Norris buys three sacks of potatoes, a large one holding 45 kg and two smaller ones holding 27.5 kg each. What is the total weight of the potatoes he has bought?
- 3 The temperature is 3°C. It falls 8°C and then rises 2°C. What is the new temperature?
- 4 A motor mower has 700 ml of petrol. 2.5 litres is added. 0.6 litres is used. How much petrol is in the mower?



- 5 The wall of a room is 4 m long. A radiator 1.6 m long is to be placed exactly in the centre of the wall. How far should it be from each side of the wall to the radiator?

B

- 1 A packet of cereal weighs 1.2 kg. 450 g is used. One third of the rest is used. How much is left?
- 2 A water bottle holds 2.6 litres. 1.9 litres is used. 750 ml is added. How much water is in the bottle?
- 3 Ceri buys six 80 cm ribbons and seven 50 cm ribbons. What is the total length of the ribbons bought in metres?
- 4 The temperature at 6 pm is 9.3°C. By midnight it falls to 3.6°C and it falls as much again by 6 am. What is the temperature at 6 am?
- 5 A recipe for eight people requires one kilogram of meat. How much is needed for three people?
- 6 Claire buys a 2 litre bottle of milk. Seven tenths is used. A quarter of what is left is used. How much milk is left?

C

- 1 A crate of 24 empty bottles weighs 6.4 kg. The crate weighs 2.8 kg. What does each bottle weigh?
- 2 Three fifths of a bottle of cooking oil is used. 450 ml is left. How much oil does a full bottle hold in litres?
- 3 A machine makes 320 staples from a 10 m length of wire. Each staple uses 15 mm of wire. How much of the wire is left?
- 4 A can of fruit weighs 425 g. There are eight cans in each box. What is the total weight in kilograms of the cans in four boxes?
- 5 Nancy makes 1.2 litres of lemon squash. She pours two fifths into a jug and the rest is shared equally between six glasses. How much squash is in each glass?
- 6 Brian needs 250 lengths of tape, each 60 cm long. Tapes are 30 m long. How many will he need to buy?

TARGET To solve word problems involving the calculation and conversion of units of measure.

Example

An avenue of trees is 2.16 km long.
The trees are evenly spaced 15 m apart.
How many are there on each side of the avenue?

$$2.16 \text{ km} = 2160 \text{ m}$$

$$2160 \div 15 = 144$$

Answer There are 145 trees on each side of the avenue.
(144 spaces plus the final tree.)



A

- 1 A park has a perimeter of 1700 m. Kylie runs round the park five times. How far has she run altogether in kilometres?
- 2 A cafe has 7.8 litres of soup. It provides 30 equal servings. How much is each serving in millilitres?
- 3 One can of peas weighs 200 g. The cans on the shelves of a shop weigh 7.4 kg altogether. How many cans are on the shelves?
- 4 One gallon is 4.5 litres. What is nine gallons in litres?
- 5 A lawn is 18.4 m wide. A mower cuts strips of grass 80 cm wide. How many times will the mower need to be pushed the length of the lawn in order to cut the grass?
- 6 Each bag of chips weighs 1500 g. What is the total weight of six bags?

B

- 1 One bottle of vinegar holds 350 ml. How much vinegar is in eighteen bottles in litres?
- 2 One pound is 1.6 US dollars.
 - a) How many dollars is £8.30?
 - b) How many pounds is 72 dollars?
- 3 Each pin is made from 3.4 cm of wire. How much wire is needed for 4000 pins in metres?
- 4 Pots of mustard hold 190 ml. How many pots can be filled from 4.75 litres?
- 5 A patio is 7 m long and 5.46 m wide. What is the area of the patio?
- 6 A small jar of hand cream holds 50 ml. How many jars can be filled from 3.8 litres?



C

- 1 A pot of gold fish food holds 13 g. How much food is there in 175 pots in kilograms?
- 2 Each magazine in a stack is 18 mm thick. The stack is 61.2 cm tall. How many magazines are there?
- 3 Bottles of washing up liquid each hold 435 ml. There are 24 bottles in a box. How much washing up liquid is there in a box in litres?
- 4 One kilogram is 2.2 pounds weight (lbs). An American footballer weighs 277.2 lbs. What is this in kilograms?
- 5 The perimeter of a rectangular room is 22 m. The longest side is 6.5 m. What is the area of the room?
- 6 Each can of fruit weighs 350 g. How many cans would have a total weight of 15.4 kg?