

Name: \_\_\_\_\_

Exam Style Questions

## Metric and Imperial Units



Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

### Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)

Video 349d

Video 349e

Video 349f



1. Here are some values used to convert between imperial and metric units.



1.6          1.75          2.2          2.5          4.5          8          30

Fill in the appropriate value to make these sentences true.

One mile is approximately ..... **1.6** ..... kilometres

One inch is approximately ..... **2.5** ..... centimetres

One litre is approximately ..... **1.75** ..... pints

One kilogram is approximately ..... **2.2** ..... pounds

One gallon is approximately ..... **4.5** ..... litres

One foot is approximately ..... **30** ..... centimetres

(4)

2. You are given that



5 miles  $\approx$  8 kilometres.

(a) Convert 20 miles into kilometres.

$$20 \div 5 \times 8 =$$

**32** ..... km  
(1)

(b) Convert 24 kilometres into miles.

$$24 \div 8 \times 5$$

**15** ..... miles  
(1)

3. Here is a conversion table for miles and kilometres.



Miles	Kilometres
1	1.6
5	8
10	16
20	32

- (a) Use the table to convert 100 miles to kilometres.

$$160 \text{ km} \\ \text{.....km} \\ (1)$$

- (b) Use the table to convert 36 miles to kilometres.

$$36 = 20 + 10 + 5 + 1$$

$$1.6 + 8 + 16 + 32 = 57.6 \text{ km} \\ \text{.....km} \\ (2)$$

4. Karen is driving through Spain and sees the sign below.



This is the speed limit in kilometres per hour.

What is the speed limit in miles per hour?

$$40 \div 8 \times 5 =$$

25

.....miles per hour  
(2)

5. Gina cycles a distance of 20 miles.  
Wendy cycles a distance of 30 kilometres.



Who travels further?

$$20 \text{ miles} = 20 \div 5 \times 8 = 32 \text{ km}$$

Gina travels further

(3)

6. On Saturday Martin drives for 6 hours.  
His average speed is 35 mph.



- (a) How far does Martin drive on Saturday?

$$S^D T \quad d = \text{speed} \times \text{time} = 6 \times 35$$

.....210.....miles  
(2)

On Sunday Martin drives 320 km.

- (b) On which day does Martin drive further?

$$320 \text{ km} = \frac{320}{8} \times 5 = 200 \text{ miles}$$

He drove further on Saturday  
(3)

7. Hannah is 5 foot tall.  
Natalie is 1.46 metres tall. = 146 cm  
Kelly is 154 centimetres tall.

Arrange the girls in order of height.  
Start with the shortest.

$$5 \text{ foot} = 5 \times 30 = 150 \text{ cm}$$

Natalie, Hannah, Kelly  
1.46m      1.50m      1.54m      (3)

8. (a) Work out how many centimetres are in 1 mile.



$$1 \text{ mile} = \frac{1}{5} \times 8 = 1.6 \text{ km} \\ = 1600 \text{ m}$$

$$= 160,000 \text{ cm} \quad (2)$$

- (b) Work out how many millilitres are in 1 gallon.

$$1 \text{ gallon} = 4.5 \text{ litres} =$$

$$4500 \text{ ml} \quad (2)$$

9. An elevator has a weight limit of 600kg.



Six American footballers enter the elevator.

Sam weighs 230 pounds.  
Harry weighs 217 pounds.  
Aaron weighs 225 pounds.  
Tom weighs 225 pounds.  
Larry weighs 215 pounds.  
Steve weighs 228 pounds.

Should all six American footballers use the elevator?

$$\text{total weight} = 1340 \text{ lbs}$$

$$600 \text{ kg} \times 2.2 = 1320 \text{ lbs}$$

No, they are 20 lbs over

(4)

10.



70 litres



125 pints



20 gallons

Starting with the smallest, arrange the oil drums in order of capacity.

$$70 \text{ L} \times 1.75 = 122.5 \text{ pints}$$

$$20 \text{ gallons} = 160 \text{ pints}$$

70 litres, 125 pints, 20 gallon

(4)

11. A table is 150 cm long.



(a) Change 150 cm to an equivalent imperial length.

$$150 \div 2.5 = 60 \text{ inches}$$

OR

$$150 \div 30 = 5 \text{ feet}$$

(1)

A vase holds 7 pints of water.

(b) Change 7 pints to an equivalent metric measure.

$$7 \text{ pints} \div 1.75$$
$$= 7 \div \frac{7}{4}$$
$$= 7 \times \frac{4}{7} = 4$$

4 litres

(1)

12. A book weighs 3.3 pounds.



(a) Change 3.3 pounds to an equivalent metric measure.

$$3.3 \text{ lbs} \div 2.2 = \frac{3.3}{2.2} = 1.5$$

1.5 kg

(1)

Distance between two towns is 24 km.

(b) Change 24 km to an equivalent imperial measure.

$$24 \div 8 \times 5 =$$

15 miles

(1)



13. Pierre is driving through Wales and see this road sign.



Cardiff	16 miles
Swansea	70 miles
Holyhead	225 miles

He is going to drive to Holyhead.  
Pierre hopes to drive at an average speed of 80 km/h.  
He leaves at 06:45.

Work out what time Pierre should arrive in Holyhead.

$$80 \text{ km/h} = 80 \div 1.6 \times 5 = 50 \text{ mph}$$

$$s^D T \quad t = \frac{\text{distance}}{\text{speed}} = \frac{225}{50} = 4\frac{1}{2} \text{ hours}$$

$$0645 + 4\frac{1}{2} \text{ hours} =$$

11:15

.....  
(5)

14. Given that



1 gallon = 8 pints and 1 litre = 1.86 pints

Convert 15 gallons to litres.

$$15 \text{ gallons} = 15 \times 8 = 120 \text{ pints}$$

$$120 \text{ pints} = 120 \div 1.86 = 64.5 \text{ L}$$

64.5 Litres  
(3)

15. A car is advertised as driving 45 miles per gallon.



The car holds 50 litres of petrol.

How far should the car travel on one tank of petrol?

$$50 \text{ litres} = 50 \div 4.5 = 11.1 \text{ gallons}$$

$$45 \text{ miles} \times 11.1 = 500 \text{ miles}$$

500 miles  
(3)