

Name: _____ Maths Group: _____ Tutor Set: _____

Unit 5 – Measures and Conversions

Homework Booklet KS3 Levels 3-8

Complete this table indicating the homework you have been set and when it is due by.

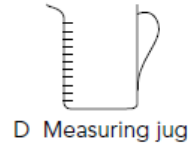
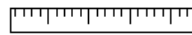
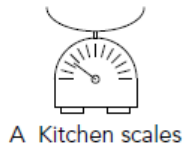
Date	Homework	Due By	Handed In

Please take care of the booklet as you will be required to make a donation to replace it if lost or damaged beyond use.

U5 – Measures and Conversions
Interpreting Scales
No Calculator Allowed

Section A

Here are some measuring instruments:

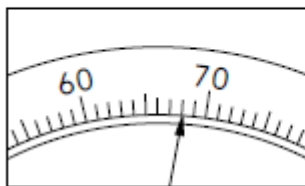


Using the correct letter, which instruments would you use to measure:

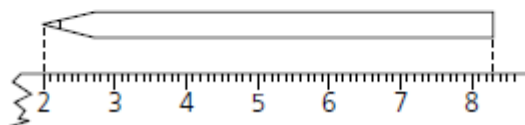
- | | | |
|---|---------|--------------------------|
| 6 The time taken to thread a needle? | 6..... | <input type="checkbox"/> |
| 7 The weight of a potato? | 7..... | <input type="checkbox"/> |
| 8 Your weight? | 8..... | <input type="checkbox"/> |
| 9 The amount of milk needed to make a cake? | 9..... | <input type="checkbox"/> |
| 10 The length of a film? | 10..... | <input type="checkbox"/> |
| 11 Your waist size? | 11..... | <input type="checkbox"/> |
| 12 The length of your pen? | 12..... | <input type="checkbox"/> |
| 13 The temperature on a hot day? | 13..... | <input type="checkbox"/> |

Section B

1 Mrs Green is weighing herself. The scale shows her weight in kilograms. How much does she weigh?



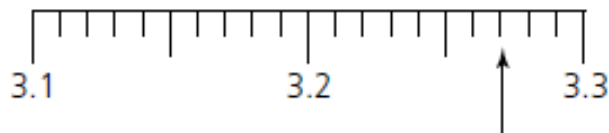
2 Mr Green is measuring this pencil. Unfortunately, his ruler is broken at the end. What is the actual length of this pencil?



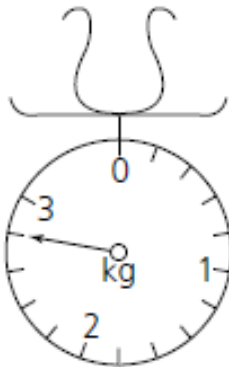
- 3 This is a car speedometer. It shows the speed in kilometres per hour. What is the speed of the car?



- 4 This scale is in millimetres.
What number is the arrow pointing to?



- 5 These scales show weight in kilograms.
What is the weight of the bag?



U5 – Measures and Conversions
Metric Measures
No Calculator Allowed

Distance – Use the following information to change the measurements.

$1\text{cm} = 10\text{mm}$	$1\text{m} = 100\text{cm}$	$1\text{Km} = 1000\text{m}$
----------------------------	----------------------------	-----------------------------

Change the following measurements to millimetres.

- 1) 3cm 2) 11cm 3) 1cm 6mm 4) 19cm 6mm 5) 2m

Change the following distances to centimetres

- 6) 60mm 7) 4m 8) 15m 9) 3Km 10) 2m 98cm

Change the following distances to metres.

- 11) 21Km 12) 5Km 234m 13) 6500m 14) 6Km 7m

Change the following to Kilometres and metres (eg 6Km 731m)

- 15) 5000m 16) 23000m 17) 2002m 18) 6805m

Weight – Use the following information to change the measurements.

$1\text{Kg} = 1000\text{g}$	$1\text{t} = 1000\text{Kg}$
-----------------------------	-----------------------------

Change the following to grams.

- 1) 6Kg 2) 44Kg 3) 1Kg 356g 4) 2Kg 8g

Change the following to Kilograms.

- 5) 4000g 6) 17000g 7) 80500g 8) 8250g

Change the following to tonne

- 9) 6000Kg 10) 1000000g 11) 7500Kg 12) 27050Kg

Capacity – Use the following information to change the measurements.

$$1\ell = 1000\text{ml}$$

$$1\text{cl} = 10\text{ml}$$

Change the following measurements to millilitres.

1) 4ℓ

2) 7cl

3) 15ℓ

4) 3.5cl

Change the following measurements to litres.

5) 16000ml

6) 7500ml

7) 30cl

8) 17cl

U5 – Measures and Conversions

Metric and Imperial
Calculator Allowed

Which units would be most suitable for measuring.

- (a) the length of a garden
- (b) the length of a shoe
- (c) the mass of a bag of apples
- (d) the volume of a glass of milk

Convert each quantity to the units given, giving your answer to an appropriate degree of accuracy.

- | | |
|--------------------------|---------------------------|
| (a) 5 inches to cm | (b) 5 kgs to lbs |
| (c) 3 feet to cm | (d) 2 feet 4 inches to cm |
| (e) 15 gallons to litres | (f) 25 miles to km |
| (g) 120 kgs to stones | (h) 20 litres to pints |

Convert each quantity to the units given. Give your answers to 1 d.p.

- | | |
|--------------------|------------------------|
| (a) 6 km to miles | (b) 38 cm to inches |
| (c) 10 lbs to kgs | (d) 86 ounces to kgs |
| (e) 963 cm to feet | (f) 10 pints to litres |
| (g) 17 km to miles | (h) 7 stone to kgs |

U5 – Measures and Conversions
Converting Measures including Volume
No Calculator Allowed

1) Complete each of the following statements, putting in an appropriate measurement.

- a) The distance from Dundee to London is approximately 473 ... or 766 ...
- b) The height of a desk is approximately 70 ...
- c) Mr Pritchard's weight is 105 ...
- d) The length of time it takes Stuart to clean his teeth is about 150 ...
- e) The weight of a tin of beans is 450 ...
- f) Antonia's swimming pool contains approximately 8,800 ... or 40,000 ... of water.
- g) The length of the stem of a daffodil is 500 ...
- h) A book is 17 ... thick.
- i) The glass contains 180 ... of lemonade.

Change the following from mm^2 to cm^2 .

- a). 450 mm^2 b). 180 mm^2 c). 20 mm^2

Change the following from m^2 to cm^2 .

- a). 3 m^2 b). 7.2 m^2 c). 0.9 m^2

Change the following from m^2 to mm^2 .

- a). 2.3 m^2 b). 7 m^2 c). 0.9 m^2

Change the following from mm^3 to cm^3 .

- a). 5000 mm^3 b). 1800 mm^3 c). 900 mm^3

Change the following from m^3 to cm^3 .

- a). 3.4 m^3 b). 2 m^3 c). 0.42 m^3

Change the following from m^3 to mm^3 .

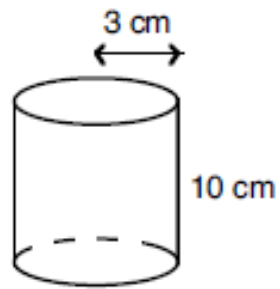
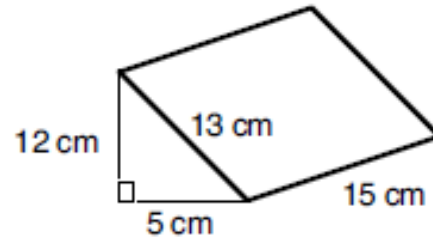
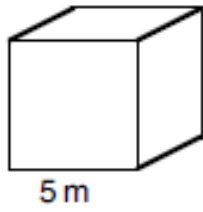
- a). 6 m^3 b). 2.3 m^3 c). 0.5 m^3

U5 – Measures and Mensuration
Compound Measures
Calculator Allowed

- 1). A block of ice weighs 2208 g and has a volume of 2400 cm^3 . Find the density of the ice.
- 2). A piece of Stilton cheese has a density of 2 g/cm^3 . It has a volume of 420 cm^3 .
What is the mass of the cheese ?
- 3). A stone weighs 440 kg. The density of the stone is 2200 kg/m^3 .
What is the volume of the stone ?
- 4). Magnesium has a density of 174 kg/m^3 . A bar of magnesium has a volume of 1.2 m^3 .
What is the mass of the bar of magnesium ?
- 5). A gold chunk has a volume of 2.5 cm^3 and a mass of 48.5 g. What is the density of gold ?

- 6). A spider crawls at 0.9 m/s for 15 seconds. How far has the spider crawled ?
- 7). It takes 45 minutes to travel to school at 35 km/h . How far is it to school ?
- 8). A train takes 2 hours 45 minutes to travel between two stations. The average speed of the train is 104 km/h . What is the distance between the 2 stations?
- 9). A hiker walks for 1 hour 15 minutes. His average speed during this time is 4 mph.
How far has he walked during this journey ?
- 10). A journey lasts 3 hours 30 minutes, during which time the average speed is

Silver has a density of 10.49g/cm . Work out the mass of the following if they were made from solid silver.



U5 – Measures and Mensuration

Travel Graphs

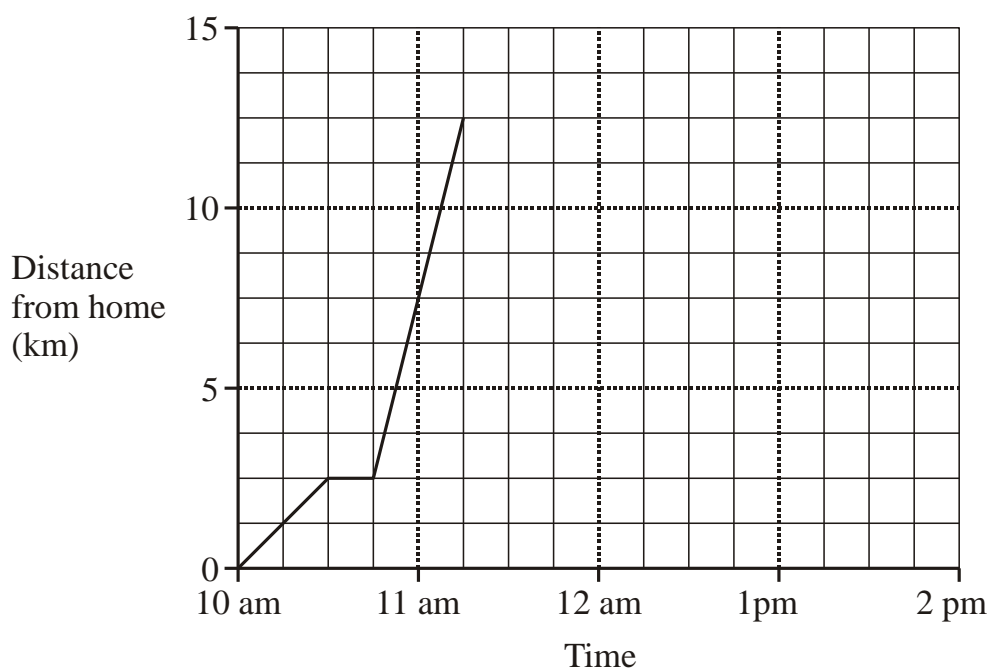
Calculator Allowed

1. Mr Smith leaves the home at 10 am to go to the shopping mall.

He walks to the station where he catches a train.

He gets off the train at the mall.

The travel graph shows his journey.



After shopping Mr Smith goes home by taxi.

The taxi leaves the mall at 1 pm and arrives at his home at 1.45 pm.

- (a) Complete the travel graph.
- (b) Calculate the average speed of the taxi.