

Converting units

Exam questions

Foundation and Higher tiers

Please write clearly in block capitals.

Name

Class

Teacher

Time allowed: 125 minutes

Materials

For this booklet you need a black pen, a pencil, a ruler, a rubber and a calculator for Section B.

Instructions

- Use black ink or black ballpoint pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions in the spaces provided.
- **Section A** (questions 1 to 17): you must not use a calculator.
- **Section B** (questions 18 to 37): you may use a calculator.
- Do all rough work in this booklet. Cross through any work you do not want marked.

Information

- The marks for each question are shown in brackets.
- The maximum mark for this booklet is 109.

Advice

- Read each question carefully.
- In all calculations, show clearly how you work out your answer.

For teacher’s use

Q	Mark	Q	Mark
1		20	
2		21	
3		22	
4		23	
5		24	
6		25	
7		26	
8		27	
9		28	
10		29	
11		30	
12		31	
13		32	
14		33	
15		34	
16		35	
17		36	
18		37	
19			
TOTAL			

Section A



You must not use a calculator

Do not
write
outside
the box

- 1 (a) Write down a sensible metric unit to measure the mass of an apple.

Answer _____ [1 mark]

- (b) Write down a sensible metric unit to measure the capacity of a mug.

Answer _____ [1 mark]

- 2 (a) Change 4.5 km to metres.

Answer _____ m [1 mark]

- (b) Change 350 g to kilograms.

Answer _____ kg [1 mark]

- (c) Change 2300 ml to litres.

Answer _____ litres [1 mark]

- 3 (a) One of these amounts is **not** equal to 1.5 kg
Circle it.

1500 g 1 kg 500 g 150 g $1\frac{1}{2}$ kg

[1 mark]

- (b) Which is longer, 2.5 km or 2050 m?
How many metres longer is it?

Answer _____ [2 marks]

- 4** (a) Write 2 hours 40 minutes in minutes.

Answer _____ minutes

[1 mark]

- (b) A podcast lasts 105 minutes.
Write 105 minutes in hours and minutes.

Answer _____

[1 mark]

- (c) How many seconds are there in a quarter of an hour?

Answer _____ seconds

[1 mark]

- (d) How many hours are there in one week?

Answer _____ hours

[1 mark]

- 5** A jug holds 2 litres of water.
Pip pours 350 ml of water out of the jug.
Then she pours another 0.6 litres of water out of the jug.

How much water is left in the jug?

Give your answer in millilitres.

Answer _____ ml

[3 marks]

- 6** A full carton holds 4 pints of milk.
1 pint = 568 ml
Theo pours 5 glasses of milk from the full carton.
Each glass holds 275 ml.

How much milk is left in the carton?
Give your answer in millilitres.

Answer _____ ml
[3 marks]

- 7** Write these lengths in order of size. Start with the smallest.
0.45 m 42 cm 405 mm 0.0004 km

Answer _____
[2 marks]

- 8** (a) A film starts at 19:45
It lasts 2 hours 25 minutes
At what time does the film finish?

Answer _____
[1 mark]

- (b) Ola says,
“3.2 hours is the same as 3 hours 20 minutes.”
Is Ola correct?
You must show your working.

[2 marks]

- 9** Leon has 6 bottles of juice.
Each bottle holds 750 ml
He pours the juice into glasses. Each glass holds 200 ml

How many glasses can he fill completely?

Answer _____

[3 marks]

- 10** Lily goes swimming 3 times a week.
Each swim lasts 1 hour 45 minutes.

Work out the total time Lily spends swimming in a week.
Give your answer in hours as a decimal.

Answer _____ hours

[3 marks]

- 11** Erin's watch shows that she ran for 4053 seconds.

Write 4053 seconds in hours, minutes and seconds.

Answer _____

[2 marks]

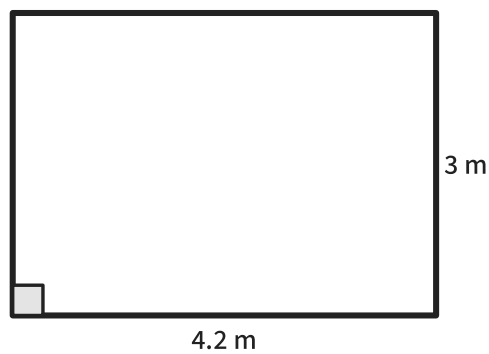
- 12** A garden snail moves at 1.3 mm every second.

How far does it move in one hour at this speed?
Give your answer in metres.

Answer _____ m

[3 marks]

- 13** The floor of a room is a rectangle 4.2 m long and 3 m wide.
The floor is covered with square tiles of side 30 cm
No tiles are cut.



Not drawn accurately

How many tiles are needed?

Answer _____

[3 marks]

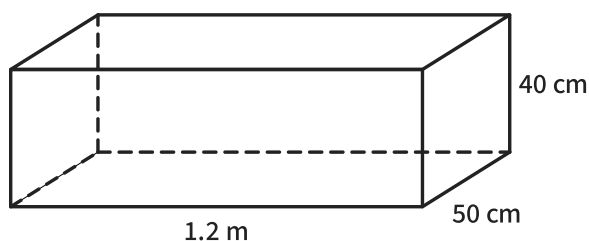
- 14** Sam says,
“ 2.4 m^2 is the same as 240 cm^2 ”

Is Sam correct?

You must show your working.

[2 marks]

- 15** A fish tank is a cuboid 1.2 m long, 50 cm wide and 40 cm high.
1 litre = 1000 cm^3



Not drawn accurately

Work out the volume of the tank in litres.

Answer _____ litres

[3 marks]

- 16** The density of a metal is 2.7 g/cm^3

Change 2.7 g/cm^3 to kg/m^3

Answer _____ kg/m^3

[2 marks]

- 17** Maya runs x kilometres in y minutes.

Write an expression for her average speed in kilometres per hour.

Do not
write
outside
the box

Answer _____ km/h

[2 marks]

Section B**You may use a calculator**Do not
write
outside
the box

- 18** To send a parcel at the cheapest price, it must weigh less than 2 kg
Bethan packs 7 books into a box.
Each book weighs 238 g
The empty box weighs 0.36 kg
- Can Bethan send her parcel at the cheapest price?
You must show your working.

[3 marks]

- 19** Each of Kwame's steps is 64 cm long.
He takes 2350 steps to walk to the park.
- How far does Kwame walk to the park?
Give your answer in kilometres.

Answer _____ km

[2 marks]

20 1 mile = 1.609 km

- (a) A cycle route is 37.5 miles long.
How long is the route in kilometres?
Give your answer to 1 decimal place.

Answer _____ km
[2 marks]

- (b) A charity walk is 50 km long.
How long is the walk in miles?
Give your answer to 1 decimal place.

Answer _____ miles
[2 marks]

21 Ade's heart beats 72 times a minute when he is resting.

- (a) How many times does his heart beat in one day when he is resting?

Answer _____
[2 marks]

- (b) How many times does his heart beat in one second when he is resting?

Answer _____
[1 mark]

- 22** (a) Fabric costs £8.49 per metre.
Amira buys 240 cm of fabric.
How much does she pay?

Answer £ _____

[2 marks]

- (b) Ribbon costs 34p for every 10 cm.
How much does 2.75 m of ribbon cost?

Answer £ _____

[2 marks]

- 23** Jess shares a 1.75 litre bottle of lemonade equally between 6 cups.

How much lemonade goes in each cup?
Give your answer to the nearest millilitre.

Answer _____ ml

[2 marks]

24

1 inch = 2.54 cm

The table shows the sizes of two photo frames.

Photo frame	Size in inches	Size in centimetres
Small	6 by 4	
Large		30 by 40

Complete the table.

Give the sizes in inches to 1 decimal place.

[4 marks]**25**

A swimming pool is 33.3 m long.

Nadia swims 48 lengths of the pool.

How far does Ade swim?

Give your answer in kilometres to 2 decimal places.

Answer _____ km

[2 marks]

26 A £1 coin has a mass of 8.75 g

- (a)** Work out the mass of 400 £1 coins.
Give your answer in kilograms.

Answer _____ kg

[2 marks]

- (b)** The £1 coins in a bag have a total mass of 1.4 kg
How much money is in the bag?

Answer £ _____

[2 marks]

- 27** An old recipe gives amounts in ounces (oz).
1 oz = 28.35 g
The recipe uses 8 oz of flour and 4 oz of butter.

- (a) How many grams of flour does the recipe use?
Give your answer to the nearest gram.

Answer _____ g
[2 marks]

- (b) Lucy takes the butter for the recipe from a 250 g block.
How much butter is left in the block?
Give your answer to the nearest gram.

Answer _____ g
[2 marks]

- 28** An airline lets each passenger take a suitcase of up to 23 kg
Ali weighs his suitcase. It weighs 49 pounds
1 kg = 2.2 pounds

Is Ali's suitcase within the limit?
You must show your working.

[3 marks]

- 29** Kemi weighs 13 stone 4 pounds.
1 stone = 14 pounds
1 pound = 0.454 kg

Work out Kemi's weight in kilograms.
Give your answer to 1 decimal place.

Answer _____ kg

[3 marks]

- 30** The fuel tank of Gareth's van holds 12 gallons.
1 gallon = 4.546 litres
Fuel costs 142.9p per litre.
The tank is empty.

How much does it cost to fill the tank?
Give your answer to the nearest penny.

Answer £ _____

[3 marks]

- 31** A trailer can carry at most 1.2 tonnes.
Freya loads 46 bags of sand onto the trailer.
Each bag weighs 26.5 kg

Can the trailer carry all 46 bags?
You must show your working.

[3 marks]

- 32** Ewa's phone shows that her screen time last week was 1735 minutes.

(a) Write 1735 minutes in hours and minutes.

Answer _____

[2 marks]

- (b) Ewa wanted her screen time to be less than 4 hours a day on average last week.
Did she manage this?
You must show your working.

[2 marks]

- 33** An American recipe measures milk in cups.
1 cup = 236.6 ml
The recipe needs 2.5 cups of milk.
Jake has 500 ml of milk.

Does Jake have enough milk?
If not, how much more milk does he need?
You must show your working.

[3 marks]

- 34** A bottle holds 0.2 litres of medicine.
Sam takes 7.5 ml of the medicine three times a day.

For how many full days will the bottle last?

Answer _____ days

[3 marks]

- 35** A printer prints 48 pages per minute.
How long will the printer take to print 500 pages?
Give your answer in minutes and seconds.

Answer _____

[3 marks]

- 36** A tap drips. It loses 3 ml of water every 10 seconds

How many litres of water does the tap lose in one week?
Give your answer to the nearest litre.

Answer _____ litres
[3 marks]

- 37** A cyclist travels at 12 metres per second
A scooter travels at 40 kilometres per hour

Which is faster?
You must show your working.

[3 marks]

END OF QUESTIONS