Standard & Compound Units

Question Paper

Course	Edexcel IGCSE Maths
Section	4. Geometry & Trigonometry
Topic	Standard & Compound Units
Difficulty	Easy

Time allowed: 80

Score: /61

Percentage: /100

Question 1

A rectangle has an area of 4 m^2.

Write this area in cm^2.

[2 marks]

Question 2a

Peter goes for a walk.
He walks 15 miles in 6 hours.

Work out Peter's average speed.
Give your answer in miles per hour.

[2 marks]

Question 2b

5 miles = 8 km.
Sunita says that Peter walked more than 20 km.

Is Sunita right?
You must show all your working.

[2 marks]

Question 3a

Manchester airport is on a bearing of 330° from a London airport.

Find the bearing of the London airport from Manchester airport.

[2 marks]

Question 3b

The London airport is 200 miles from Manchester airport.

A plane leaves Manchester airport at 10am to fly to the London airport.
The plane flies at an average speed of 120 mph.

What time does the plane arrive at the London airport?

[4 marks]

Question 4a

Gary drove from London to Sheffield.
It took him 3 hours at an average speed of 80km/h.

Lyn drove from London to Sheffield.
She took 5 hours.

Assuming that Lyn
drove along the same roads as Gary
and did not take a break,

work out Lyn's average speed from London to Sheffield.

[3 marks]

Question 4b

If Lyn did **not** drive along the same roads as Gary, explain how this could affect your answer to part (a).

[1 mark]

Question 5

A box exerts a force of 140 newtons on a table.
The pressure on the table is 35 newtons/m^2.

Calculate the area of the box that is in contact with the table.

[3 marks]

$$p = \frac{F}{A}$$

p = pressure
F = force
A = area

Question 6

A train takes 6 hours 39 minutes to travel from New Delhi to Kanpur.
The train travels a distance of 429 km.

Work out the average speed of the train.
Give your answer in km/h correct to one decimal place.

[3 marks]

Question 7

A train journey from Paris to Amsterdam took 3 hours 24 minutes.
The total distance the train travelled was 433.5 km.

Work out the average speed of the train.
Give your answer in kilometres per hour.

..... km/h

[3 marks]

Question 8

Change 1 m^3 to cm^3.

..... cm^3

[1 mark]

Question 9

Change 32.4 m^3 into cm^3.

..... cm^3

[2 marks]

Question 10

A rocket travelled $100\ \text{km}$ at an average speed of $28440\ \text{km/h}$.

Work out how long it took the rocket to travel the $100\ \text{km}$.
Give your answer in seconds, correct to the nearest second.

..... seconds

[3 marks]

Question 11

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

A box is put on a table.

The face of the box in contact with the table is in the shape of a rectangle, $2\ \text{m}$ by $1.25\ \text{m}$.
The pressure on the table due to the box is $42\ \text{newtons/m}^2$

Work out the force exerted by the box on the table.

..... newtons

[3 marks]

Question 12

Abelie flew by plane from Dubai to Rome.

The flight time was 6 hours 42 minutes.
The average speed of the plane was 650 kilometres per hour.

Work out the distance the plane flew.

.....kilometres

[3 marks]

Question 13

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

Find the pressure exerted by a force of 810 newtons on an area of 120 cm^2
Give your answer in $\text{newtons}/\text{m}^2$

.....$\text{newtons}/\text{m}^2$

[3 marks]

Question 14

Circle the volume that is the same as $15\ \text{cm}^3$

$15\,000\ \text{mm}^3$ $1.5\ \text{mm}^3$ $0.0015\ \text{mm}^3$ $150\ \text{mm}^3$

[1 mark]

Question 15

Circle the area that is equal to 36 mm^2

360 cm^2 3600 cm^2 3.6 cm^2 0.36 cm^2

[1 mark]

Question 16

Carol makes birthday cards.
Each card takes the same amount of time to make.

She makes 3 cards in 48 minutes.
She has an order for 80 cards.

Can she complete this order in 3 days if she works 8 hours each day?
Show how you decide.

..... because

.....

[5 marks]

Question 17

The ratio 50 grams to 1 kilogram can be written in the form 1 : n.

Find the value of n.

n = ...

[2 marks]

Question 18a

Hector can run 400 metres in 66 seconds.

Use this information to show that he could run 5 kilometres in less than 14 minutes.

[4 marks]

Question 18b

Hector tries to run 5 kilometres in less than 14 minutes.

Give one reason why he might not achieve this.

[1 mark]

Question 19

A solid metal block has mass 500 g and volume 125 cm^3.

Work out the density of the block.
Give the units of your answer.

[3 marks]

Question 20a

The depth of water in a garden pond is 57.8 cm.
The depth decreases by 0.3 cm per day.

Assume the depth continues to decrease at the same rate.

After how many days will the depth reach 54.2 cm?

..... days

[3 marks]

Question 20b

If the depth of water decreases at a slower rate, what effect will this have on your answer to part (a)?

[1 mark]