



Lite GCSE Maths

Measures Problem Solving 1

Name: _____

Class: _____

Author:

Date:

Time: 33

Marks: 27

Comments:

Q1. The speed limit through some roadworks is 50 mph.

Cameras recorded the time taken for a car to travel 600 m through the roadworks as 27 seconds.

10 mph is approximately 4.47 m/s

Was the car speeding through the roadworks?

You **must** show your working.

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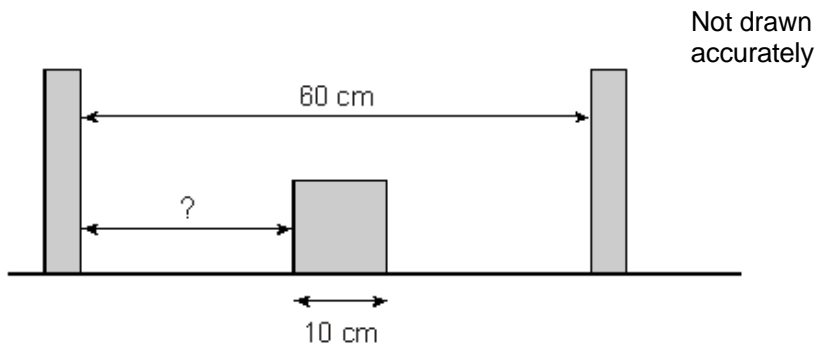
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(Total 4 marks)

Q2. Two posts are 60 centimetres apart.
A block, 10 cm wide, is placed exactly half way between them.



What is the distance between the block and one of the posts?

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Answercm

(Total 2 marks)

Q3. After exercise you can work out your fitness index, F .

You need to know

your exercise time in seconds (T)

the number of your pulse beats in three 30 second intervals after you have stopped exercising (a , b and c).

Terry is working out his fitness index.

(a) (i) Terry exercises for 3 minutes 30 seconds.

Work out T

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Answer seconds

(1)

(ii) After exercise he obtains $a = 70$, $b = 55$ and $c = 45$

Work out $a + b + c$.

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Answer pulse beats

(1)

(iii) Work out F , Terry's fitness index, using the formula

$$F = \frac{50T}{a+b+c}$$

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Answer seconds

(2)

(b) Your fitness grade can be worked out from your fitness index, F , using this table.

Fitness index, F	less than 50	50 to 59	60 to 69	70 to 79	80 to 89	≥ 90
Fitness grade	Very poor	Poor	Fair	Good	Excellent	Superb

What is Terry's fitness grade?

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Answer

(1)
(Total 5 marks)

Q4. A baker is weighing out amounts of bread dough using a machine. The machine is set to weigh 400 grams of dough. The amounts of dough are each within 10% of the weight set. 300 amounts of dough are produced by the machine.

What is the maximum total amount of bread dough that could be produced? Give your answer in kilograms.

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Answer kg

(Total 3 marks)

Q5. Mary says the length of a corridor is 35 m to the nearest metre. Habib says the length of the same corridor is 30 m to the nearest 10 metres. Mary and Habib are both correct. Give a possible value for the actual length of the corridor.

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Answer metres

(Total 2 marks)

Q6. Susan completes a journey in two stages.

In stage 1 of her journey, she drives at an average speed of 80 km/h and takes 1 hour 45 minutes.

(a) How far does Susan travel in stage 1 of her journey?

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Answer km

(2)

(b) Altogether, Susan drives 190 km and takes a total time of 2 hours 15 minutes. What is her average speed, in km/h, in **stage 2** of her journey?

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Answer km/h

(2)

(Total 4 marks)

Q7. A crane has a cable with a breaking strain of 5300 kg measured to 2 significant figures. It is used to lift crates which weigh 100 kg measured to the nearest 10 kg.

What is the greatest number of crates that can be lifted at one time so that the cable does not break?

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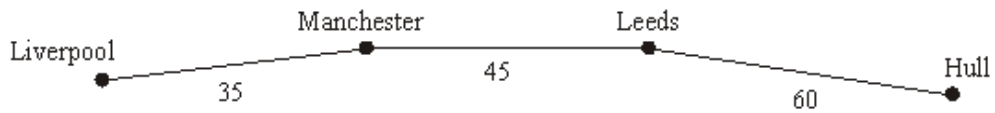
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Answer

(Total 4 marks)

Q8. Here is a route map of the M62 motorway. The distances, in miles, between four cities are shown on the map.



Complete the following table to show the distances between these cities.

Liverpool			
35	Manchester		
80		Leeds	
		60	Hull

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(Total 3 marks)

