Please check the examination details below before entering your candidate information

Candidate surname	Other names

Pearson Edexcel Functional Skills

Centre Number	Candidate Number

Sample assessment material for first teaching September 2019

Time: 25 minutes	Paper Reference **SAML2/01**

Mathematics

Level 2

Section A (Non – Calculator)

You must have:
Pen, HB pencil, eraser, ruler graduated in cm and mm, protractor, pair of compasses.

Total Marks

My signature confirms that I will not discuss the content of the test with anyone.

Signature: _____

Instructions

- Use a **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Sign the declaration.
- Answer **all** questions.
- Write your final answers in the boxes provided.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You **must** show clearly how you get your answers in the spaces provided. Marks will be awarded for your working out.
- Check your working and your answers at each stage.
- Diagrams are **not** accurately drawn, unless otherwise indicated.
- **Calculators may not be used**
- Take the value of π to be 3.14

Information

- The total mark for this section is 16
- The marks for each question are shown in brackets.
  – *use this as a guide to how much time to spend on each question.*
- This sign ☑ shows where marks will be awarded for showing your checks.

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ▶

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Please note that these worked solutions have neither been provided nor approved by Pearson Education and may not necessarily constitute the only possible solutions. Please refer to the original mark schemes for full guidance.

Any writing in blue indicates what must be written in order to answer the questions and get the marks. The worked solutions have been designed to show the smallest amount of work which needs to be done to answer the question.

Anything written in green in a cloud doesn't have to be written in the exam.

Anything written in orange in a rectangle doesn't have to be written in the exam and is there to show what should be put into a calculator or measured using a ruler or protractor.

If you find any mistakes or have any requests or suggestions, please send an email to curtis@cgmaths.co.uk

.CG Maths.

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

1 Ria works in a paint shop.
She needs to make 1500 ml of purple paint.

Ria makes purple paint by mixing red paint and blue paint and white paint in the ratio 3 : 2 : 1

How much blue paint does Ria need to make 1500 ml of purple paint?

(3)

Work out how many parts there are in total in the ratio as there is 1500ml in total so we need to know how many parts represent this. Dividing the 1500 by the total number of parts works out what 1 part of the ratio represents. 2 parts represent blue so what 1 part represents should be multiplied by 2 to work out how much blue paint is needed

ml

(Total for Question 1 is 3 marks)

2 Here is some information about the number of houses sold by 20 sales people.

Number of houses sold	Frequency		
1 – 5	7		
6 – 10	6		
11 – 15	5		
16 – 20	2		

Work out an estimate for the mean number of houses sold.

(3)

Multiplying the frequency by the midpoints of each category works out an estimate of the total number of houses sold in each category. The midpoints are worked out by finding the mean by adding the lowest and highest number of houses in each category then dividing by 2. Adding up the estimates of the total number of houses in each category works out an estimate of the total number of houses. Dividing this by the 20 sales people works out an estimate of the mean number of houses sold

(Total for Question 2 is 3 marks)

3 Amanda wants to buy a new mobile phone.
She sees these two offers for the same mobile phone.

Offer A	**Offer B**
2 year contract monthly cost £59 and mobile phone cost £39.96	SIM only monthly cost £11 and mobile phone cost £889.92

Amanda says,

'I will save more than £300 in total over 2 years with offer B'.

Use estimation to check if her statement is reasonable.
You **must** show your working.

(4)

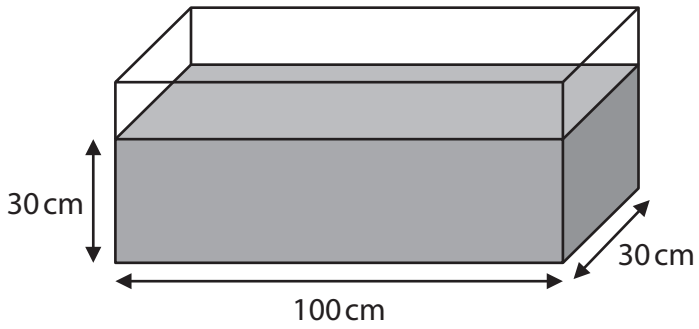
Round the monthly costs and the mobile phone costs to 1 significant figure. This means that only the first figure is quoted after being rounded by using the second figure and everything after the first figure is then set to 0. £39.96 rounds to £40. There are 12 months in a year. Work out how many months there are in 2 years. Multiply this by the rounded monthly costs for Offer A and B. Then add the rounded mobile phone costs to work out estimates for the total cost of Offers A and B. Subtracting the estimate of the total cost of Offer B from the estimate of the total cost of Offer A works out an estimate of how much is saved. If the estimate is more than £300 her statement is reasonable

(Total for Question 3 is 4 marks)

4 Matt buys a new fish tank.

The fish tank is in the shape of a cuboid.

The diagram shows water in the tank.



Matt knows

1000 cm^3 = 1 litre

1 gallons = 4.5 litres

He can keep 2 small fish in the tank for every 1 gallon of water in the tank.

Matt thinks he can keep more than 36 small fish in the tank.

Is Matt correct?

(6)

Volume of cuboid = length x width x height. The length is 100cm, the width is 30cm and the height of the water is 30cm. Dividing the volume of the water in cm^3 by 1000 converts the volume into litres as every 1000cm^3 is 1 litre. Dividing the number of litres by 4.5 works out how many gallons of water there is as every 4.5 litres is 1 gallon. Every gallon of water can keep 2 small fish. So multiplying the number of gallons by 2 works out how many small fish can be kept in the tank. If this is more than 36 Matt is correct

(Total for Question 4 is 6 marks)

TOTAL FOR SECTION A = 16 MARKS