Functional Skills Mathematics Level 2 (Set 3)

PLEASE SIGN AND DATE BELOW TO CONFIRM THAT YOUR DETAILS ARE CORRECT AND THAT YOU HAVE UNDERSTOOD THE INSTRUCTIONS

First name:	**Joe**
Family name:	**Blogs**
Student number (ULN):	**0**
Centre number:	**0**
Date of birth:	**06/05/1972**
Signature:	
Today's date:	

Functional Skills - Awarding Consortium

Functional Skills Mathematics - Level 2

PLEASE READ THE TEXT BELOW CAREFULLY BEFORE STARTING THE ASSESSMENT

INSTRUCTIONS AND GUIDANCE

- The assessment includes three tasks.
- The total number of marks is: **45 marks**.
- The number of marks available for each question is shown in brackets.
- You have **2 hours** to complete the assessment.
- The invigilator will monitor the time and inform you when the test finishes at which point you must stop working.
- You should attempt to complete all of the tasks.
- You should plan your work carefully and be aware of the time available to complete the assessment.
- You should show your workings in the "Workings" spaces provided on the assessment paper. These will be assessed.
- You should write on the printed side of the assessment paper only. Work completed on the other side will not be taken into consideration by the marker.
- You may use a standard portable **calculator**.

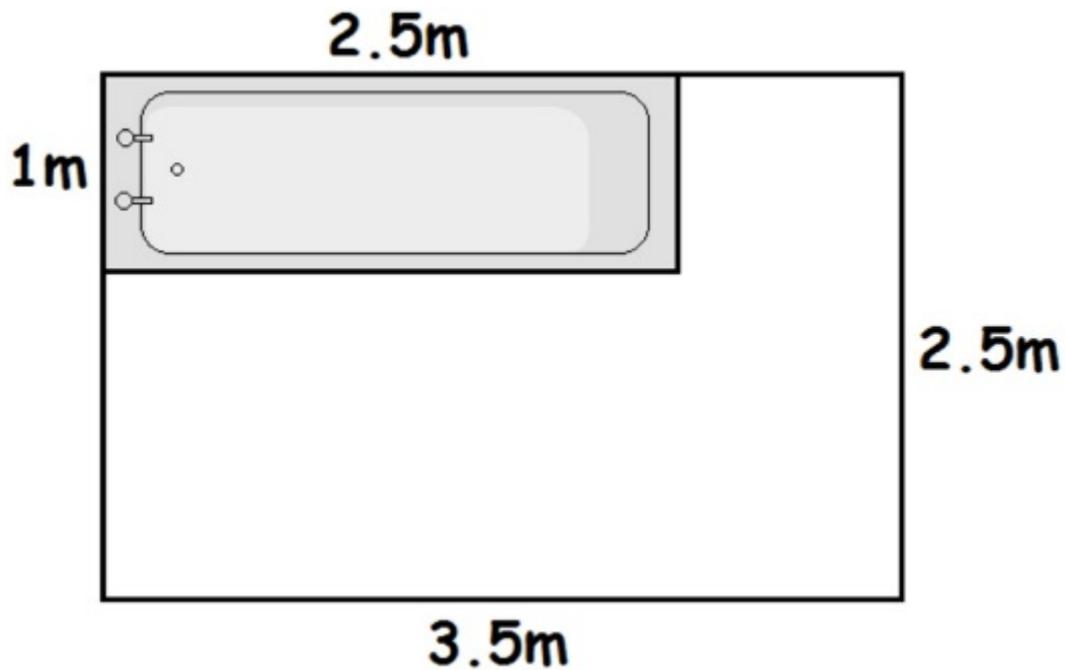**The allocation of marks for each task is shown in the table below**

Task	Mark
1	14
2	15
3	16
Total	45

Task 1	**Task 1 - Floor tiles**
Total marks available	**14 marks**

Elena is fitting a new bathroom floor.

Her bathroom is 3.5 metres long and 2.5 metres wide. Her bath is 2.5 metres long and 1 metre wide.

This is a plan of her bathroom.

The tiles she will be buying are each 50 centimetres square and are available in packs of 10. She thinks three packs of tiles will be enough.

Elena will not be tiling the floor underneath the bath.

Question 1

Calculate the area of the floor to be tiled, and find out how many tiles make up 1 metre squared. Will 3 packs of tiles be enough?

Check one of your calculations.

Workings

Answer:.. **(10 marks)**

Elena needs to buy floor tile glue. She sees these two products:

Supastik   2L   Covers 1.5 m² of floor   £6.95
Moreflaw   8L   Covers 7 m² of floor   £29.00

Elena wants to tile her floor for the least amount of money.

Question 2

Which of the two products is the best value for money?

Workings

Answer:.. **(4 marks)**
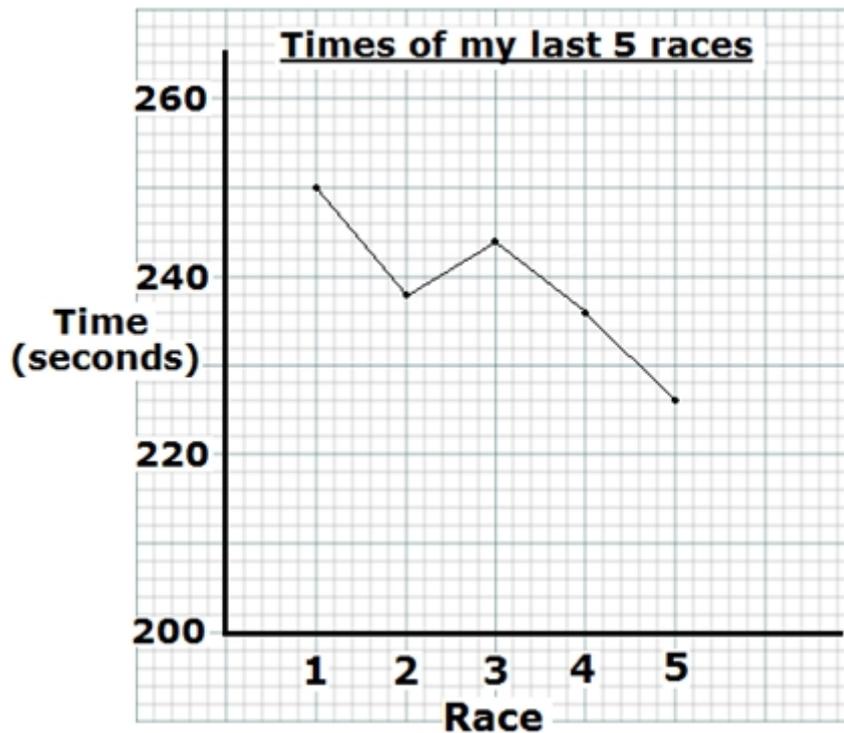
Task 2 | **Task 2 - Wheelchair athletics**

Total marks available | **15 marks**

Liam is a wheelchair athlete.

He competes in the 1500m race and he has recorded the times of his last 5 races on a graph.

Times of my last 5 races

Liam's coach says that he can qualify for the athletics team if he is one of the three fastest competitors and if his average speed over the 5 races is more than 6 metres per second.

This is a table showing the average times of Liam's fellow competitors at his athletics club:

Alexis	Sajid	Sam	Miguel	John
3 mins 48 secs	4 mins 1 sec	3 mins 54 secs	4 mins 5 secs	3 mins 59 secs

Question 3

Can Liam qualify for the team with his performance over the last 5 races?

Workings

Answer:.. **(11 marks)**

In 12 races Liam records his finishing position.

From this he calculates the probability that he finishes in the first 3 is 58% (to the nearest per cent).

Question 4

What is the probability as a fraction that Liam finished in the first 3 in the 12 races?

Remember to show your result based on the 12 races.

Workings

Answer:.. **(4 marks)**

Task 3

Total marks available

Task 3 - Selling sweets

16 marks

Stefan makes and sells confectionery on his market stall.

He has obtained long cardboard tubing which he can cut to length and add ends to make sweet containers.

Stefan makes 750 sweets which weigh 5 kilograms. He wants to sell 100 grams of sweets in each tube.

He has 12 tubes, each of them 0.6 metres long and 5 centimetres in diameter. He uses this formula to find the height of the tubes he needs.
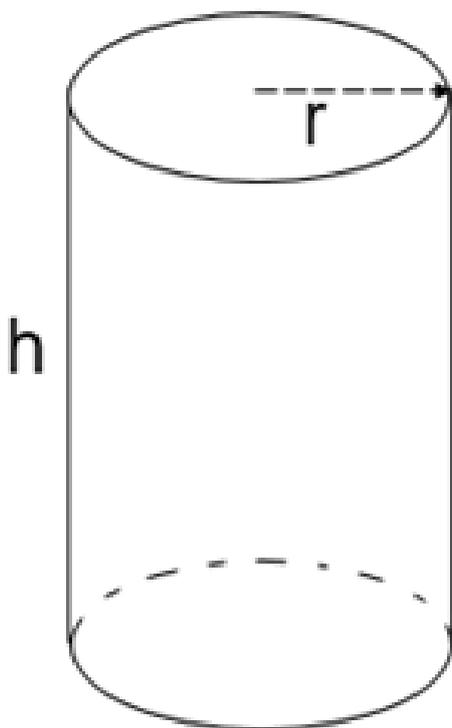
$$h = \frac{13\,s}{\pi\,r^2}$$

s = no. of sweets
h = height of tube
r = radius of tube
π = 3.14

Question 5

Calculate the number of sweets in each cut tube and the height of each cut tube. Will Stefan have enough tubing to contain all of the sweets made?

Workings

Answer:... **(16 marks)**

[End of test]

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