

Functional Skills

Mathematics

Level 1 - Sample

Fill in your name, date of birth, registration number and centre name in the boxes below.

Surname:	Other Names:
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Centre Name:	
My signature confirms that I will not discuss the content of this assessment with anyone.	
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Paper Ref: FSML1AA/P	Time: 1 hour 30 minutes	Total Marks: 45	Marks Achieved: /45
You must have: A pen with black or blue ink, calculator, HB pencil, eraser, ruler (graduated in cm and mm)			
Instructions			
<ul style="list-style-type: none"> • Answer all questions. • Answer the questions in the spaces provided. 			
Information			
<ul style="list-style-type: none"> • The total mark for this paper is 45. • The marks for each question are shown in brackets - use this as a guide as to how much time to spend on each question. • You must show clearly how you get your answers because marks will be awarded for your working out. • Check your working and your answers at each stage. • Calculators may be used throughout the paper. 			

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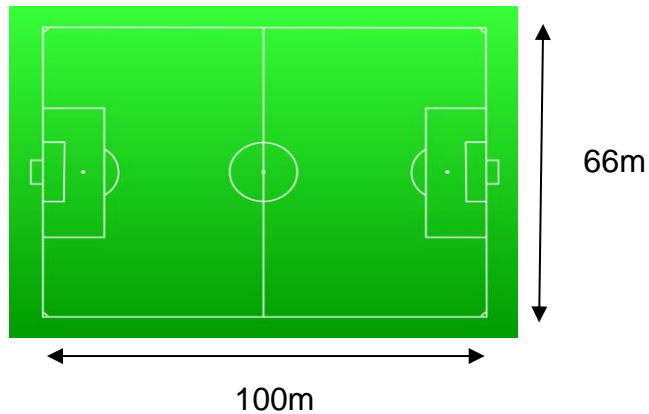
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Section A - Football

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Use Only

Sam has a job at a football club. She helps the groundsman to look after the pitch.

The football pitch is shown here.



1. Sam is asked to repaint the white lines around the outside edge (perimeter) of the pitch.

What is the perimeter of the pitch?

*You **must** show your working.*

(2 marks)

2. Sam has to work out how much paint she needs. One litre of paint covers a 400cm length of the perimeter.

Sam estimates that she needs about 80 litres of paint.

How good is Sam's estimate?

*You **must** show your working.*

(3 marks)

3. Sam is asked to order enough grass seed to cover the whole pitch.

What is the area of the pitch?

You **must** show your working.

(2 marks)

4. Sam wants to buy the **cheapest grass seed** to cover the whole pitch. Look at the information below.

Grass seed	Area of ground covered by a bag of seed (m ²)	Cost (per bag) £
A	600	150
B	100	40
C	110	28
D	660	153
E	220	65

Which grass seed should Sam choose? Explain your answer.

You **must** show your working and explain your reasoning.

(5 marks)

5(a) Sam only uses three quarters of the grass seed.

Her friend, Ali, says, "You have **more** than 30% left."

Is Ali correct?

You **must** show your working and explain your reasoning. (3 marks)

5(b) You should have checked your calculations throughout the task.

Use the box below to show how you can check your answer for **Q5(a)**.

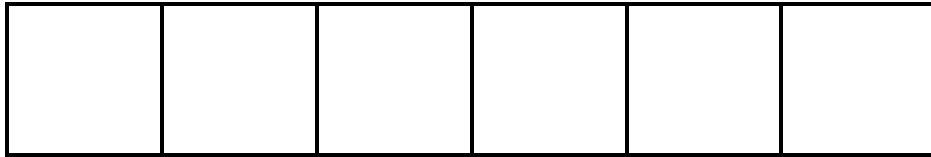
The method you use for checking **must be different** from the method you first used to work out your final answer.

Show your check. (2 marks)

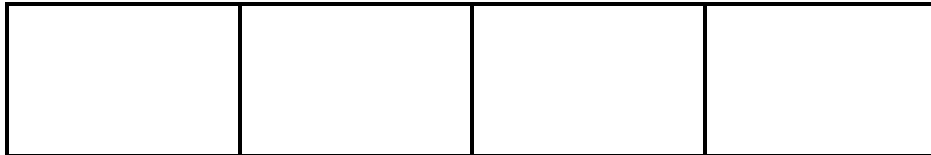
6. Sam is asked to work out how to increase the number of spaces for wheelchair users in the seating area of the stadium.

Four wheelchair spaces take up the length of six seats. Sam draws a plan:

seats



wheelchair
spaces



How many seats will need to be removed to have 18 more wheelchair spaces?

You **must** show your working.

(3 marks)

Section B - Making Candles

Henry wants to make some candles. The items needed to make **ten** candles are:

- 1kg wax flakes
- 10 candle wicks
- 50ml essential oil
- 10 candle tins.



He looks at prices on a website:

wax flakes - 2kg £11.68
candle wicks - £11.50 for ten
essential oil - 100ml for £4.82
candle tins - ten for £9.50.

1. Henry has a budget of £40.

Does he have enough money to buy all these items?

*You **must** show your working.*

(2 marks)

2. Henry buys all these items.

Which items will he have too much of, to make 10 candles?

*You **must** show your working.*

(2 marks)

Marker
Use Only

3. Using your answer to Q1, how much does one candle cost him to make?

*You **must** show your working.*

(2 marks)

4. Henry adds 40ml of essential oil to 1kg of wax flakes.

What fraction of the 100ml of essential oil does Henry use?

*You **must** show your working.*

(2 marks)

5. The wax needs to be heated to 55°C. The thermometer reads the temperature of the wax as 62.5°C.

By how much will he have to reduce the temperature of the wax to reach 55°C?

*You **must** show your working.*

(2 marks)

6. Henry decides to make and sell a different type of candle. It costs him £2.45 to make **one** of these new candles.

He sells **one** of the new candles for £9.80.

How much profit does he make?

*You **must** show your working.*

(2 marks)

7. Henry wants to work out the percentage profit for **one** candle. He uses this equation:

$$\text{percentage profit} = \frac{\text{profit}}{\text{cost}} \times 100$$

Using your answer to Q6, what is the percentage profit for selling one candle?

*You **must** show your working.*

(3 marks)

8. Henry sets up a website to sell his candles.

8(a) The cost of the website is £6.84 per month for the first six months. For the rest of the year the price is reduced by a quarter ($\frac{1}{4}$).

What is the total cost of the website for one year?

You **must** show your working.

(3 marks)

8(b) You should have checked your calculations throughout the task.

Use the box below to show how you can check your answer for **Q8(a)**.

The method you use for checking must be different from the method you first used to work out your answer.

Show your check.

(2 marks)

9. These are Henry's sales figures for the first two months.

Week	1	2	3	4	5	6	7	8
Candles sold	43	67	93	109	103	98	98	109

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What is the mean number of candles sold per week?

*You **must** show your working.*

(3 marks)

10. What is the range of the number of candles sold over the first two months?

*You **must** show your working.*

(2 marks)

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END OF ASSESSMENT

Gateway Qualifications
Gateway House
3 Tollgate Business Park
Colchester, CO3 8AB

01206 911211
enquiries@gatewayqualifications.org.uk
@GatewayQuals