Write your name here

Surname | Other names

Edexcel
Functional Skills

Centre Number | Candidate Number

Mathematics
Level 1

14–18 November 2011
Time: 1 hour 30 minutes

Paper Reference
FSM01/01

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

Total Marks

My signature confirms that I will not discuss the content of the test with anyone until the end of the 5 day test window.

Signature: _____

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- **Calculators may be used.**

Information

- The total mark for this paper is 48.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- **Where you see this sign you must show clearly how you get your answers because marks will be awarded for your working out.**

Advice

- Read each question carefully before you start to answer it.
- Show all stages in the calculations.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

P37660A0120

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SECTION A: Theme park

Answer all questions in this section.

Write your answers in the spaces provided.

1 Andy is the manager of a theme park.
He wants to record information about the drinks people buy from the kiosks at the theme park.

Andy will collect data on Saturday afternoon from 1 pm to 5 pm.
People can buy tea, coffee, cola, lemonade, orange juice or bottled water.

Andy will record the number of each drink sold each hour from 1 pm to 5 pm.

(a) Design a data collection sheet for Andy to use.

(3)

Use the box below to show your data collection sheet.

The theme park sells about 5500 litres of cola drink each week.
The cola drink is made by mixing cola concentrate with carbonated water.

These are the instructions on the cola concentrate bottle.

> Dilute 1 litre of cola concentrate with
> 20 litres of carbonated water

Andy works out that 250 litres of cola concentrate will make 5500 litres of cola drink.

(b) Is Andy correct? Show why you think this.

(3)

Use the box below to show clearly how you get your answer.

The kiosks only sell tea, coffee, cola, lemonade, orange juice and bottled water.

(c) How likely is it that a person buys a hot chocolate drink from a kiosk?

(1)

Write your answer in the box below.

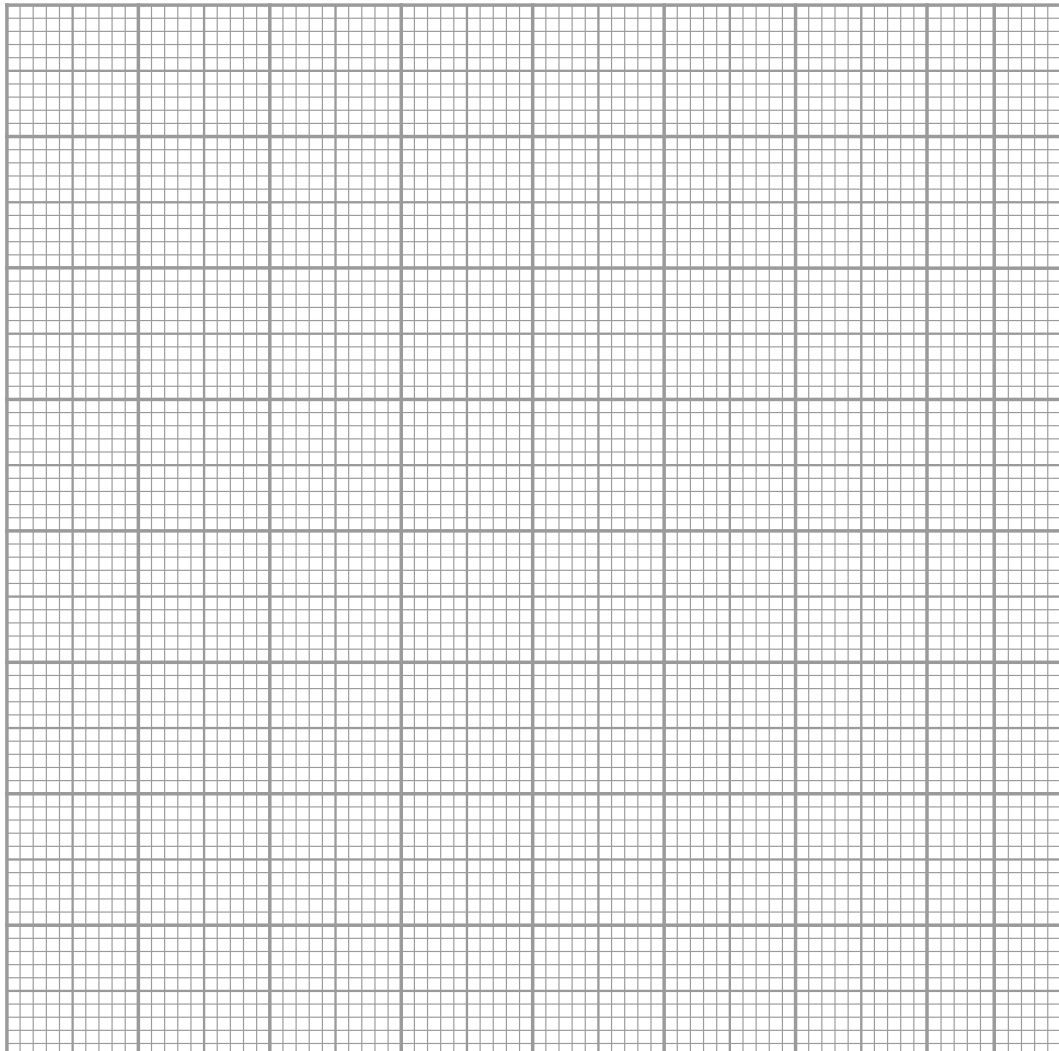**(Total for Question 1 is 7 marks)**

2 Andy will write a report on the number of people who visit the drinks kiosks on Friday.

Time of day	1 pm to 2 pm	2 pm to 3 pm	3 pm to 4 pm	4 pm to 5 pm
Number of people	360	310	350	230

He needs to display this information in a graph or chart for the report.

Draw a graph or chart for Andy.

(3)

(Total for Question 2 is 3 marks)

Turn over ▶

3

Theme Park

Park tickets

Ticket type		Price
Adult	aged 12 and over	£38.60
Children	under 12	£25.40
Seniors	over 60	£25.40
Saver ticket for 4 2 adults + 2 children or 1 adult + 3 children		£104.60

Four friends visit the theme park.
Sam aged 14
Emile aged 12
Chris aged 11
Toni aged 11

Sam says
'It will be cheaper to buy a saver ticket.'

(a) Is Sam correct? Show why you think this.

(5)

Use the box below to show clearly how you get your answer.

Boomerang ride

To go on the Boomerang ride you must be at least 1.4 m tall

Toni is 138 cm tall.

(b) Is Toni tall enough to go on the Boomerang ride?

(1)

Use the box below to explain your answer.

(Total for Question 3 is 6 marks)

Turn over ▶

Answer all questions in this section.

Write your answers in the spaces provided.

4 Anka has a ticket for a music festival in a park in London.
   She will travel by train from Andover to London.

Andover	08:35	09:04	09:38	10:04	10:38
Whitchurch	08:43	09:12	-	10:12	-
Woking	09:19	09:51	10:17	10:51	11:17
London	09:51	10:19	10:49	11:19	11:49

Anka needs to arrive at the station in London by 11.00 am.
She wants to leave home 20 minutes before the train leaves Andover.

Anka starts a time plan.

(a) Complete the time plan for Anka.

(3)

Write your answers in the box below.

Time plan

Leave home at ....

Train leaves Andover at ....

Train arrives in London at ....

(b) How long will Anka's train journey take from Andover to London?

(2)

Use the box below to show clearly how you get your answer.

(Total for Question 4 is 5 marks)

5 Anka looks at the programme for the music festival.

	Location		
Time	**Main stage**	**Radio stage**	**Dance tent**
7 pm	Polar Bears	Mystic River	Thrash
8 pm	The Clouds	Lucky Fridays	DJ RobertJ
9 pm	Poor Girls	Lost in Vegas	The Runners
10 pm	Rap King	Paula P	Slice

Anka's favourite music acts are Lost in Vegas, The Runners, Slice, Polar Bears and Mystic River.

She wants to see as many of her favourite acts as possible.
She also wants to meet up with her friends to eat.

Anka wants to plan her evening.
The plan must show
 • the acts
 • times
 • the locations
 • when she will meet her friends.

Make a plan for Anka's evening.

(4)

P 3 7 6 6 0 A 0 1 0 2 0

Use the box below to show your answer.

(Total for Question 5 is 4 marks)

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6 Food and drink are on sale at the music festival.

Price list

Food		**Drinks**	
Baguette	£4.00	Bottled water	
Pizza slice	£5.00	£1.20 for 500 ml	
Chips	£2.50	£2.30 for 1 litre	
Sausage roll	£2.50	Cola	
Ice cream	£3.00	£1.50 for 500 ml	
Crisps	£1.20	£2.79 for 1 litre	

Anka wants to buy 1 litre of water to drink during the festival.

She can buy two 500 ml bottles of water or one 1 litre bottle of water.

(a) Which option is cheaper?

(2)

Use the box below to show clearly how you get your answer.

Anka meets 5 friends.
Anka and her friends all want something to eat and drink.

Anka buys the food and drink.
She buys
- one baguette for each person
- two large bottles of cola.

Anka pays with two £20 notes.

(b) How much change will Anka get?

(3)

Use the box below to show clearly how you get your answer.

Each of the 5 friends gives Anka £5.00

(c) Is this fair? Explain why you think this.

(2)

Use the box below to show clearly how you get your answer.

(Total for Question 6 is 7 marks)

SECTION C: Home improvements

Answer all questions in this section.

Write your answers in the spaces provided.

7 Olu is making a shower room in his house.
He wants to cover the floor with tiles.

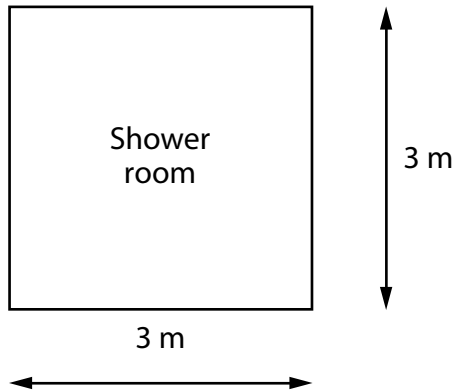The length of the room is 3 m.
The width of the room is 3 m.

Diagram **NOT** accurately drawn

Olu finds these prices on the internet.

Tile name	Size	Cost of 1 tile
Metro	20 cm by 20 cm	£1.70
Crema	30 cm by 30 cm	£2.00
Sienna	20 cm by 20 cm	£1.70
Romano	30 cm by 30 cm	£2.50

Olu wants to use the largest tiles he can.

(a) Write down the name of a tile Olu could use.

(1)

Use the box below to write your answer.

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Olu wants to buy enough tiles to cover the floor of the shower room.
He needs to know how much the tiles will cost.

(b) Work out the cost of covering the floor of the shower room with tiles.

(5)

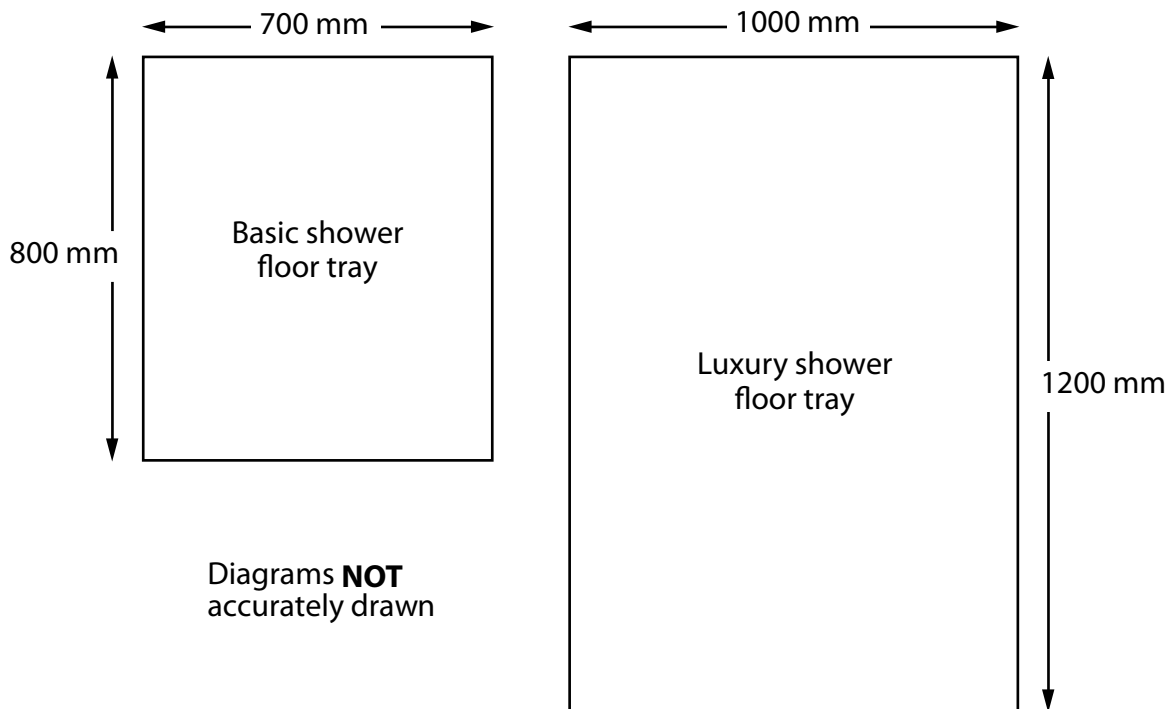Use the box below to show clearly how you get your answer.

(Total for Question 7 is 6 marks)

Turn over ▶

8 Olu wants to put a shower in his shower room.

He finds the sizes of these two floor trays for shower cubicles.

←——— 700 mm ———→   ←——— 1000 mm ———→

800 mm   Basic shower
            floor tray

                                    Luxury shower   1200 mm
                                    floor tray

            Diagrams **NOT**
            accurately drawn

Olu chooses the luxury shower floor tray.

He wants to put the shower in the corner of the room.

He draws a plan of his shower room.

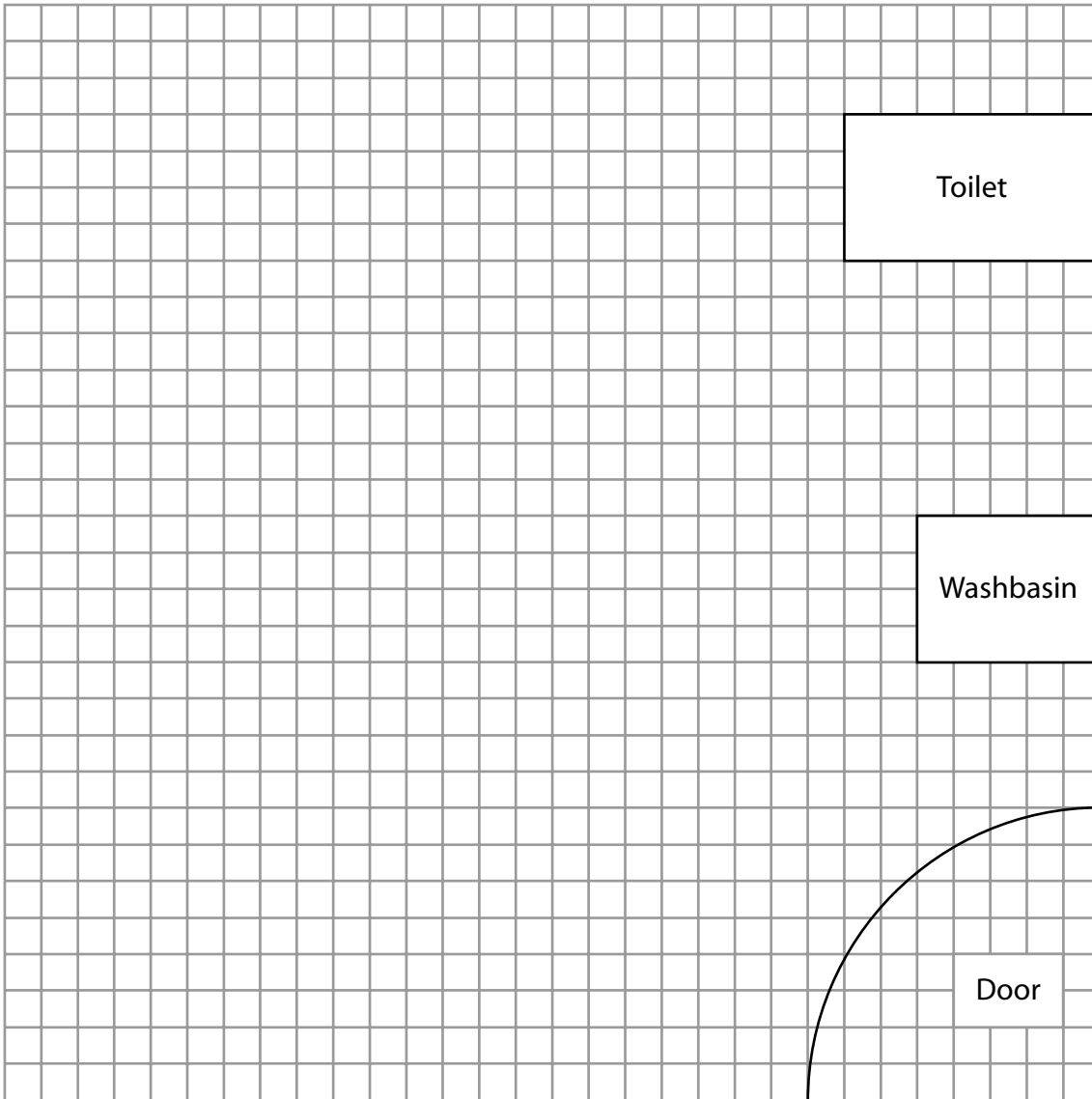Draw the luxury shower floor tray on Olu's plan.

(3)

P 3 7 6 6 0 A 0 1 6 2 0

Plan of shower room

Key: 1 square on the plan = 100 mm in the shower room

(Total for Question 8 is 3 marks)

Turn over ▶

9 Olu wants to buy an extractor fan for his kitchen.
He needs to work out the area of the kitchen floor to make sure he buys the right fan.
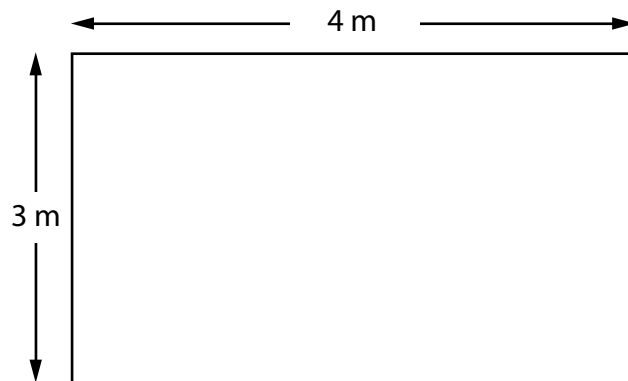
The kitchen is 4 m long and 3 m wide.

4 m

3 m

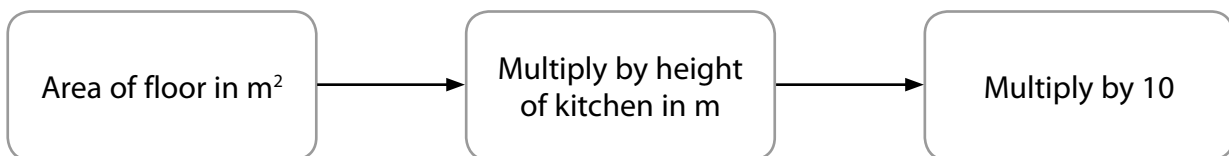Diagram **NOT**
accurately drawn

(a) Calculate the area of the kitchen floor.

(2)

Use the box below to show clearly how you get your answer.

Olu will use this rule to work out the airflow needed for the kitchen.

| Area of floor in m^2 | → | Multiply by height of kitchen in m | → | Multiply by 10 |

The kitchen has a height of 2.5 m

(b) Find the airflow needed for the kitchen.

(3)

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Use the box below to show clearly how you get your answer.

The table shows information about some fans.

Fan	Airflow (m³/hr)	Cost
Small	185	£77.60
Economy	250	£55.50
Standard	310	£82.56
Large	360	£108.96

Olu wants a fan with a bigger airflow than the kitchen needs.

(c) Choose the cheapest fan that is suitable for Olu's kitchen.

(2)

Use the box below to show your answer.

(Total for Question 9 is 7 marks)

TOTAL FOR PAPER = 48 MARKS

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