

Write your name here

Surname

Other names

**Edexcel**  
**Functional Skills**

Centre Number

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Candidate Number

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# Mathematics

Level 1



18 – 22 June 2012

**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

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**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.
- Sign the declaration.
- 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 ►

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6/4/3



**PEARSON**

## SECTION A: Gym Viva

Answer all questions in this section.

Write your answers in the spaces provided.

- 1 Dean is the manager of Gym Viva.  
Gym Viva opens at 0630 every day. It closes at 2200

(a) How long is Gym Viva open for each day?

(2)

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



There are 70 customers at the gym on Friday afternoon.

Dean wants to have 1 person on duty for every 15 customers at the gym.  
He has 5 people on duty on Friday afternoon.

(b) Does Dean have enough people on duty?

(2)

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



Dean wants to know how busy the gym is on a Saturday.

The gym areas are

- fitness centre
- pool
- weights area

The customers are

- men
- women
- children

He needs a data collection sheet to record the information quickly.

(c) Design a data collection sheet for Dean.

(3)

Use the box below to show your data collection sheet.



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



- 2 Theo wants to join Gym Viva.  
The gym offers a free trial before you join.

**Gym Viva free trial**  
Pick any 3 exercise classes  
Swim at any time

The table shows information about the exercise classes for the free trial.

Start time	Exercise class	How long the class lasts
1430	Step	45 minutes
1445	Viva Dance	45 minutes
1515	Spinning	30 minutes
1600	Box Fit	30 minutes
1615	Yoga	45 minutes
1645	Pilates	45 minutes
1730	Body Combat	45 minutes
1845	Circuit Training	45 minutes

Theo decides to go between 1400 and 2000

- He wants to start with a 30 minute swim.
- He wants to go to Body Combat and 2 other exercise classes.
- He needs a break of at least 30 minutes between all activities.

Theo wants a timetable for his day.

The timetable must show the start time and the finish time for each activity.

Make a timetable for Theo.

(5)



Write your timetable in the box below.

**(Total for Question 2 is 5 marks)**



3 The table shows information about different types of membership at Gym Viva.

Type of membership	What you get	Monthly cost
<b>Full</b>	Any Viva gym at any time	£51
<b>Standard</b>	Local Viva gym only at any time	£43.95
<b>Economy</b>	Local Viva gym only at off peak times	£41
<b>Age 55+</b>	Local Viva gym only at off peak times	£37
<b>Student Age 16–18</b>	Local Viva gym only at any time	£28
<b>Child Age 5–15</b>	Local Viva gym only at any time	£12

<b>Family membership</b>	Any Viva gym at any time	£1620 for 1 year
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Peak times: 0730-0900, 1700-1930  
Off-Peak times: 0630-0730, 0900-1700, 1930-2200

Theo wants to get membership for himself, Julie and their 2 children.  
Their ages are

Theo 45  
Julie 45  
Rob 17  
Dan 14

Julie wants to go to the local Viva gym between 0900 and 1200.  
Theo wants to be able to go to any Viva gym at any time.  
Rob and Dan want to go to the local Viva gym only.

Theo wants to pay as little as possible for the four of them.

What is the total cost of their membership?

(4)



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



A large, empty rectangular box with rounded corners, intended for the student to show their work.

**(Total for Question 3 is 4 marks)**



## SECTION B: Supermarkets

Answer all questions in this section.

Write your answers in the spaces provided.

4 Emma works in a supermarket.

She gets £6.20 per hour for the first 20 hours she works each week.  
She gets £7.80 per hour for any extra hours she works.

Last week Emma worked for 27 hours.  
She works out that her pay for last week should be £167.40

(a) Is Emma right?  
Show why you think this.

(4)

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





Emma works for 27 hours each week.

The chart shows the days and the times Emma is going to work between Monday and Friday next week.

Emma has to choose her working hours for the weekend.

**0800 0900 1000 1100 1200 1300 1400 1500 1600 1700 1800**

	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
Mon	Shaded	Shaded	Shaded	Shaded	Shaded						
Tues							Shaded	Shaded	Shaded	Shaded	
Wed		Shaded	Shaded	Shaded	Shaded	Shaded					
Thur	Shaded	Shaded					Shaded	Shaded	Shaded	Shaded	
Fri			Shaded	Shaded	Shaded	Shaded					
Sat											
Sun											

**Key**



hours worked

(b) Choose the hours for Emma to work at the weekend.

(1)

Shade the hours on the chart.

**(Total for Question 4 is 5 marks)**



5 Rohan is the manager of the cooked food section.

The table shows the number of roast chickens sold each day last week.

Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Roast chickens sold	42	34	56	26	59	65	47

This is Rohan's weekly target for the number of roast chickens sold.

The mean daily number of roast chickens sold must be at least 45

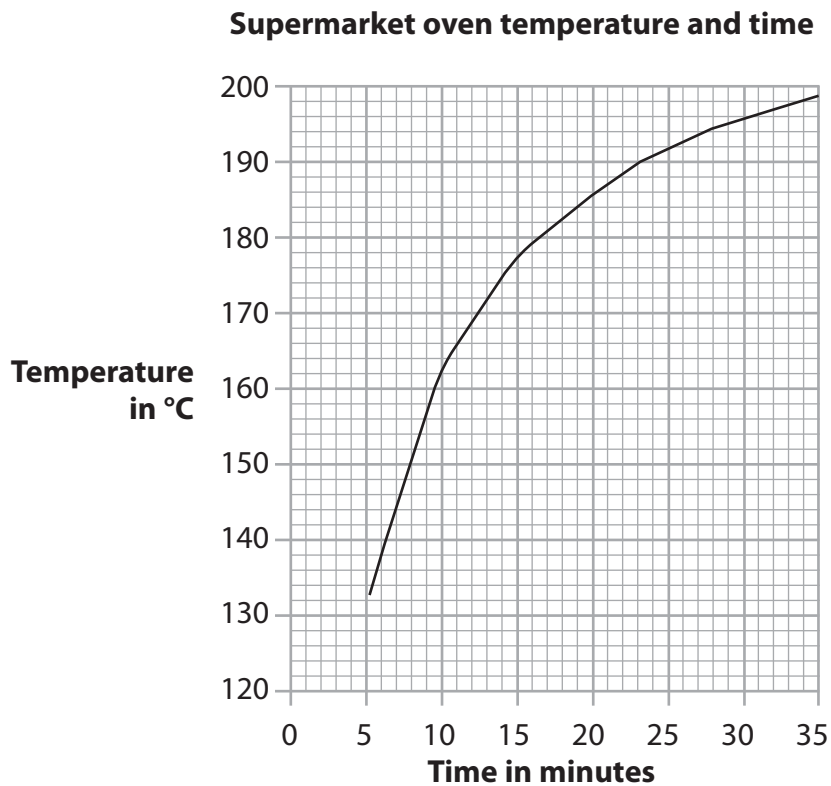
(a) Did Rohan meet his target last week?

(3)

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



Matt is on work experience at the supermarket.  
Matt records the temperature of the oven every five minutes.  
He draws this graph for his work experience report.



The oven temperature needs to be 190 °C to roast a chicken.

(b) Use Matt's graph to find out how long the oven will take to heat up to 190 °C. (2)

Write your answer in the box below.

**(Total for Question 5 is 5 marks)**



- 6 Satbir needs to visit supermarkets in three towns. The towns are Dale, Abbey and Upton.

She needs to

- start from her office
- visit each town
- finish back at her office.

The diagram shows the distance in miles between the towns and between Satbir's office and the towns.

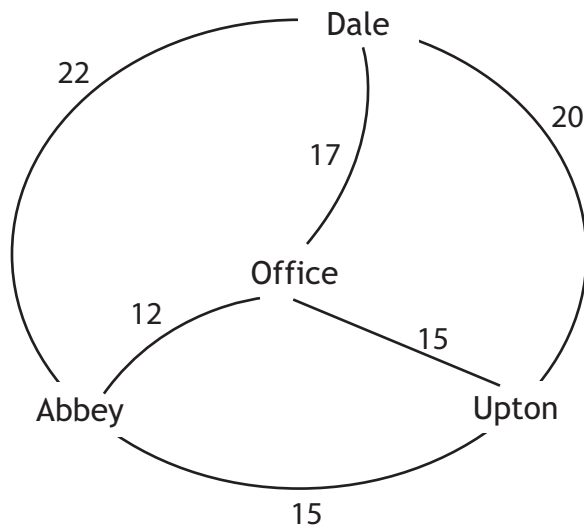


Diagram **NOT** accurately drawn

Satbir does not want to travel more than 75 miles in total.

- (a) Find a route and its total distance from the office to the three towns and back to the office. (2)

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



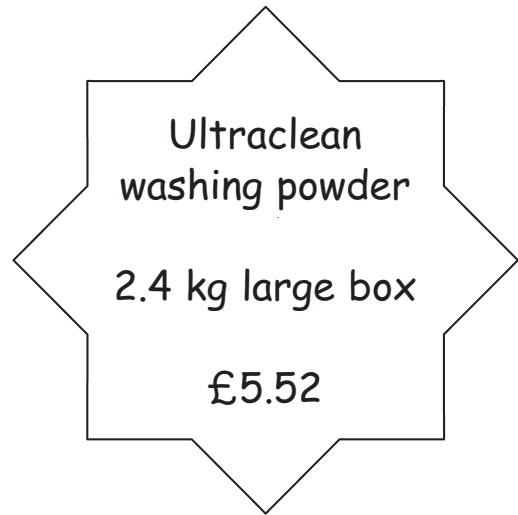
Large empty box for writing the answer.



Satbir sees boxes of Ultraclean washing powder in two sizes.



Ultraclean  
washing powder  
800 g small box  
£2.16



Ultraclean  
washing powder  
2.4 kg large box  
£5.52

Satbir wants to know which box of washing powder is the best value for money.

(b) Which box of washing powder is the best value for money?

(4)

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



(Total for Question 6 is 6 marks)



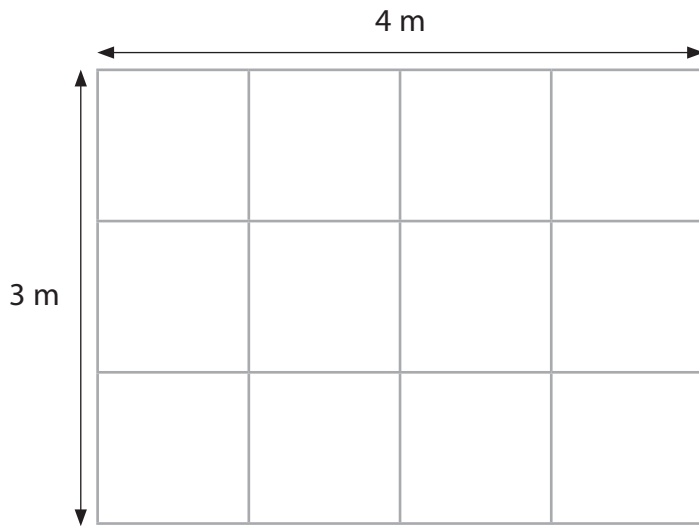
### Section C: The conservatory

Answer all questions in this section

Write your answers in the spaces provided

7 Jo chooses new floor tiles for her conservatory.

The diagram shows a plan of the floor.



Jo knows that

- 6 floor tiles will cover  $1\text{m}^2$  of the floor
- there are 15 tiles in each box.

She buys 5 boxes of tiles.

(a) Does Jo have enough tiles?

(4)



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



A large, empty rectangular box with rounded corners, intended for the student to show their work.



Jo hires Sam to fit the floor tiles in the conservatory.

Sam uses this rule to work out how much to charge.

£10 per hour plus a fixed cost of £50

Sam takes 4 hours to fit the tiles.

(b) How much should Sam charge? (2)

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



(c) Show how you can check your answer to part (b). (1)

Write your check in the box below.

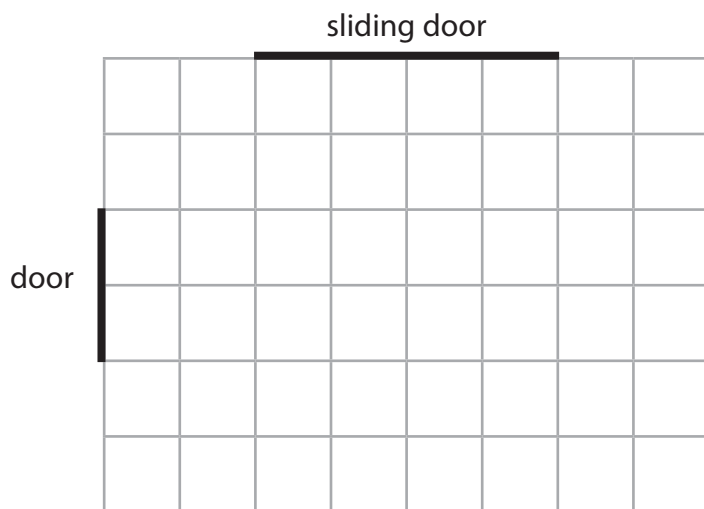
**(Total for Question 7 is 7 marks)**





- 8 Jo is going to put a large chair and a stand for the TV in her conservatory. She wants to work out where to put the chair and the TV stand.

Jo draws a plan of the conservatory on a centimetre squared grid.



Key: 1 cm on the grid = 50 cm on the floor

The large chair

- needs a rectangular floor space 200 cm by 100 cm
- must be at least 100 cm from each door.

The TV stand

- needs a rectangular floor space 100 cm by 50 cm
- must be in a corner.

Draw the large chair and the TV stand on the plan.

(4)

(Total for Question 8 is 4 marks)



9 Jo sees a large chair she likes in 3 different shops.

The posters show the prices in each shop.

The image shows three posters for chairs. The first poster, 'DFX', is a jagged starburst shape containing the text: 'DFX', 'Only  $\frac{1}{4}$  of normal price', and 'Normal price £1296'. The second poster, 'Land of Chairs', is a multi-pointed star shape containing the text: 'Land of Chairs', 'Deposit £100', 'and', and '12 payments of £19.99'. The third poster, 'Chairs 4 U', is a cloud shape containing the text: 'Chairs 4 U', 'Now 50% of the full price', and 'Full price £699'.

Jo wants to pay as little as possible for the chair.

Which shop should she buy the chair from? (5)



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



A large, empty rectangular box intended for the student to show their work.

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**(Total for Question 9 is 5 marks)**

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**TOTAL FOR PAPER IS 48 MARKS**



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**Acknowledgements**

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