

Write your name here

Surname

Other names

**Edexcel**  
**Functional Skills**

Centre Number

--	--	--	--	--

Candidate Number

--	--	--	--

# Mathematics

Level 1



6–10 February 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

--

**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 ►

P40706A

©2012 Pearson Education Ltd.

6/6/4/3



**PEARSON**

## SECTION A – Bright Smiles

Answer all questions in this section.

Write your answers in the spaces provided.

- 1 The table below shows how much money patients paid at the Bright Smiles dental centre on Monday.

Patient name	Patient type	Amount paid (£)
Joanne	NHS	17
Fred	Private	545
Kay	NHS	47
Veronica	NHS	204
Sanjay	Private	95
Nitesh	NHS	0
Darcy	NHS	17
Steve	NHS	0
Nancy	NHS	0
Nic	Private	750

(a) How much money was paid in total on Monday?

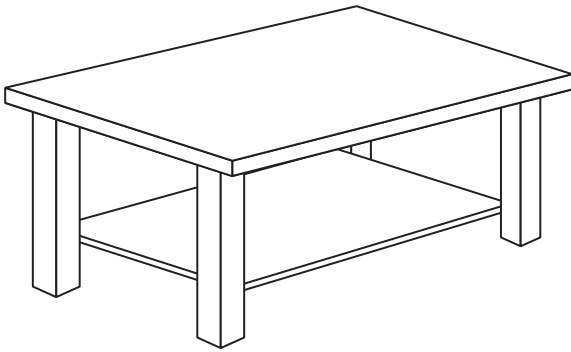
(1)

Write your answer in the box below.



Joy works at the Bright Smiles dental centre.

She buys a magazine table and a plant to improve the reception room.



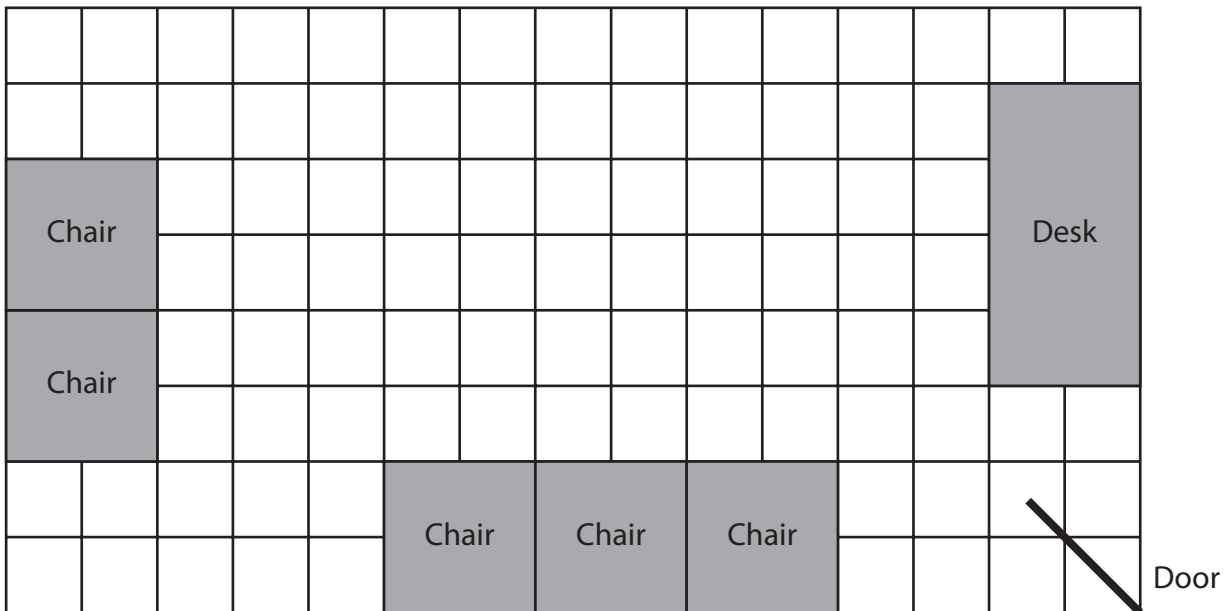
The magazine table

- needs a rectangular space 200 cm by 100 cm
- must be at least 100 cm away from the desk and all the chairs.

The plant

- needs a square space 100 cm by 100 cm
- must be put in a corner.

(b) Draw and label the magazine table and the plant on the grid. (4)



Key: 1 cm on the grid = 50 cm in the room

(Total for Question 1 is 5 marks)



**2** Joy books appointments for patients in the diary.

The dentists are Maria, Pedro and David.

Joy has marked the diary where the dentists are not available.  
She has booked some patients for Tuesday.

Joy now needs to book appointments for Tuesday for these patients.

- Di Pilling, 30 minutes with David
- Rob Gamble, 45 minutes with Maria
- Joan Andrews, 30 minutes, before 10am
- Nina and Sam Jones, 30 minutes each, appointments must follow each other with the same dentist

Write the appointments in the diary for these patients.

(5)



Tuesday			
	Maria	Pedro	David
9.00			
9.15			
9.30			Keep free emergency appointments
9.45		Clare Hudson	
10.00			
10.15		Sarah Davies	
10.30	Steven Jennings	Natalie Johnson	Jessica Fletcher
10.45			
11.00		Sarah Simmons	
11.15			
11.30			Elaine Hulme
11.45			
12.00			
12.15			
12.30		Sandeep Singh	
12.45			

(Total for Question 2 is 5 marks)



3 Grace visits the Bright Smiles dental centre.

She sees this sign.

**Tooth Whitening**

£125 per session

**\*\*\* Special Offer \*\*\***

£545 for 5 sessions

Grace thinks she needs 5 sessions of tooth whitening.  
She decides to use the special offer.

(a) How much money does Grace save?

(2)

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



A large empty rectangular box for writing the solution to the problem.



Grace starts a tooth whitening session at 10.25

The tooth whitening session is in 3 stages.

Stage 1 – the preparation takes 25 minutes

Stage 2 – Grace has to sit for half an hour while her teeth whiten

Stage 3 – the final stage takes a quarter of an hour

(b) What time does the tooth whitening session end?

(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 working out for the problem.

**(Total marks for Question 3 is 6 marks)**



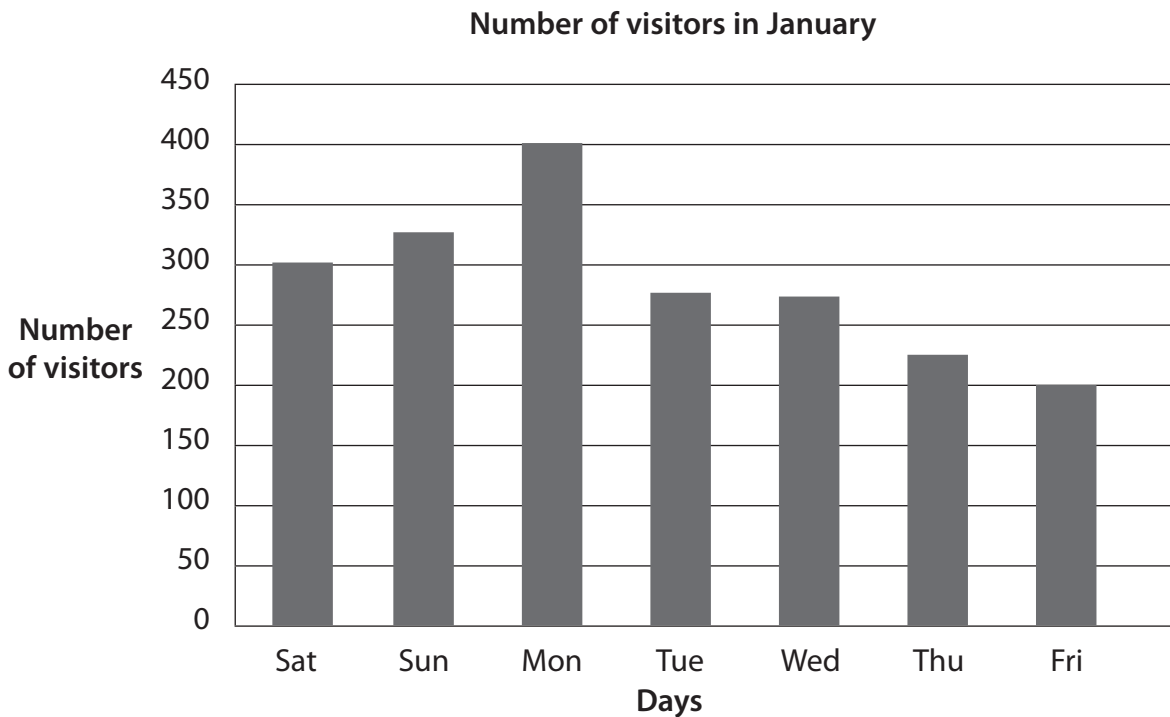
## SECTION B – Leisure Centre

Answer all questions in this section.

Write your answers in the spaces provided.

- 4 Mo is the manager of a leisure centre.

Mo makes this bar chart to show the number of visitors to the leisure centre in January.



Write **two** statements about the number of visitors to the leisure centre.

(2)

Write your statements in the box below.

(Total for Question 4 is 2 marks)





5 On Saturday and Sunday the leisure centre pool is open from 8am to 9pm.

The pool attendant measures the temperature of the pool every three hours.  
The first temperature is measured at 8am each day.

Mo needs a data collection sheet for the pool temperatures on Saturday and Sunday.

(a) Design a data collection sheet for Mo.

(3)

Use the box below to show your data collection sheet.



The pool attendant uses a chemical to test a sample of pool water.

She adds 1 part chemical to 4 parts pool water.

The pool attendant uses 25 ml of chemical.

(b) How much pool water should she use?

(2)

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



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

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



6 Simon meets a trainer at the leisure centre to set fitness goals.

The trainer uses this rule to calculate Simon's BMI.

$$\text{Simon's BMI} = \text{Simon's weight in kg} \div 3$$

One of Simon's fitness goals is to have a BMI between 19 and 25

Simon's weight is 72 kg.

(a) Is Simon meeting this fitness goal?

(3)

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



A large empty rectangular box for writing the answer and showing the calculation.



Simon has another fitness goal.

Run more than 50 km this month.

The table shows how far Simon runs this month.

	Distance in km
<b>Week 1</b>	10.3
<b>Week 2</b>	11
<b>Week 3</b>	17
<b>Week 4</b>	12.8

(b) Does Simon meet this fitness goal? (2)

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



Simon says he runs further every week.  
Simon is wrong.

(c) Explain why Simon is wrong. (1)

Write your answer in the box below.



The trainer wants to give Simon a certificate for meeting his swimming goal.

The table shows the number of lengths Simon swims.

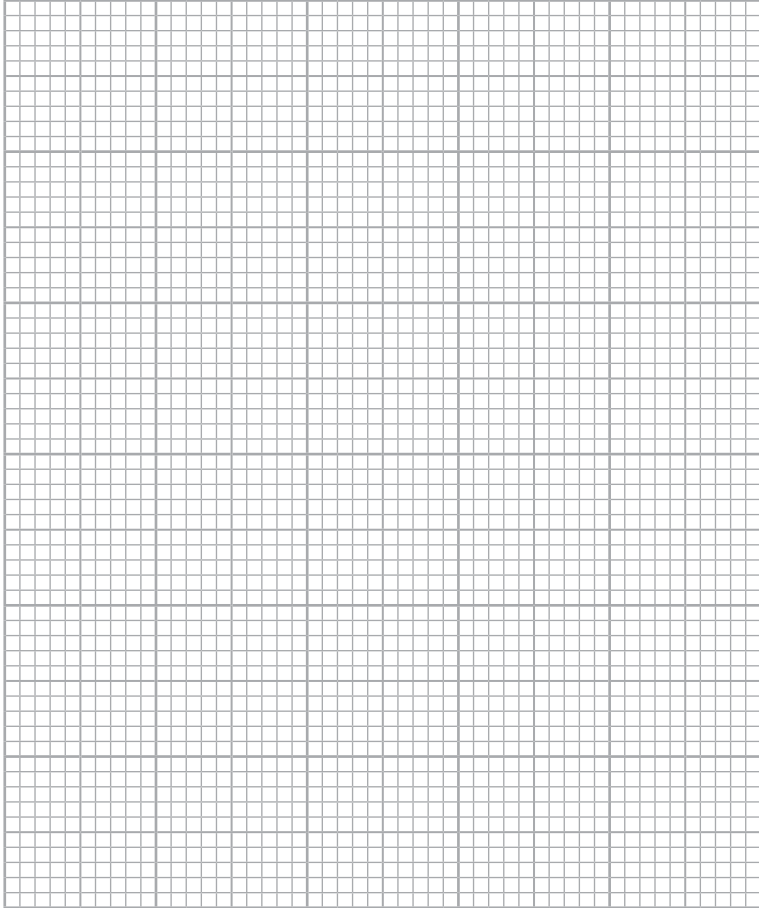
	Week 1	Week 2	Week 3	Week 4
Number of lengths	30	35	50	40

The certificate has a space for a graph or chart.

(d) Draw a graph or chart to display the data. (3)

Use the graph paper below to show your graph or chart.

*Swimming Certificate*



(Total for Question 6 is 9 marks)



**SECTION C – Being green at home**

**Answer all questions in this section.**

**Write your answers in the spaces provided.**

**7** Dan's electricity bill is £190

Dan can save 10% of this amount if he pays by direct debit.

(a) How much money can Dan save if he pays by direct debit?

(2)

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



Dan thinks he can save on his electricity bill by putting a solar panel on his roof.

He also knows the electricity company will pay him for electricity the solar panel produces.

Dan sees this advert.

**Solar panels £5,000 each**

- Save £200 per year on your electricity bill
- and also
- Get £15 cash each month

Dan thinks it will take less than 10 years to cover the £5 000 cost from the money he saves and the money he gets.



(b) Is Dan correct?  
Explain why you think this.

(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 and reasoning.

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



8 Dan wants to put draught excluder on some windows in his house.

The draught excluder goes along each edge of the window.

One of Dan's windows is 120 cm high and 90 cm wide.

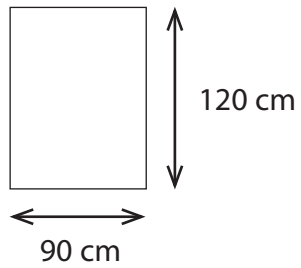


Diagram **NOT**  
accurately drawn

(a) What total length of draught excluder does Dan need for this window?

(2)

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





Dan has 6 of these windows.  
He wants to put draught excluder on all of them.

Dan can buy draught excluder in strips.  
The length of each strip is 5 metres.  
Strips can be cut and joined.

Dan buys 4 strips of draught excluder.

(b) Does Dan have enough draught excluder for 6 windows?

(4)

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



A large empty rectangular box for writing an explanation.

**(Total for Question 8 is 6 marks)**



9 Dan and his partner Jo also want to save money on their water bill.

Dan says

Our water costs £10 per week.

Jo says

I think we can save money if we change to a water meter.

Dan and Jo record the number of times they use water in one week.

Activity	Tally
Washing machine	
Toilet flush	
Washing dishes	
Shower	

Jo finds this information.

Cost of water with a water meter	
Activity	Cost each time
Washing machine	17 p
Toilet flush	2 p
Washing dishes	7 p
Shower	11 p



Should Dan and Jo change to a water meter?

(3)

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 and answer the question.

---

**(Total for Question 9 is 3 marks)**

---

**TOTAL FOR PAPER IS 48 MARKS**



**BLANK PAGE**

