

Write your name here

Surname

Other names

**Pearson Edexcel  
Functional Skills**

Centre Number

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Candidate Number

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# Mathematics

Level 1



4–8 November 2013

**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.**
- **Check your working and your answers at each stage.**



## Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.

Turn over ►

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**PEARSON**

## SECTION A: Fencing

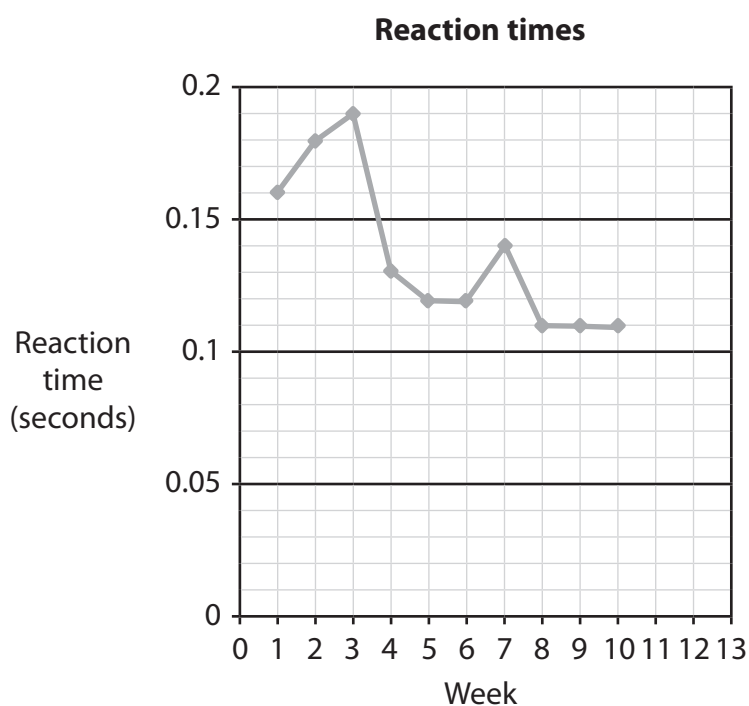
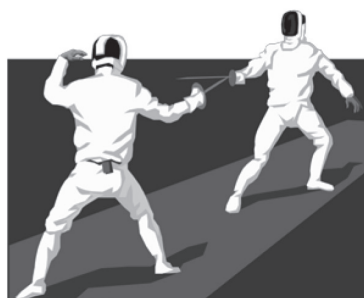
Answer all questions in this section.

Write your answers in the spaces provided.

- 1 Nick belongs to the Eagles fencing club.

He wants to improve his reaction time.

Nick tests his reaction time every week and puts the results on the graph below.



In week 11, Nick has a reaction time of 0.1 seconds.

- (a) Mark the result for week 11 on the graph for Nick.

(1)

- (b) In which week does Nick take most time to react?

(1)

Write your answer in the box below.



Nick thinks the graph shows his reaction time has improved over the 11 weeks.  
He is correct.

(c) Explain why Nick is correct.

(1)

Write your answer in the box below.

**(Total for Question 1 is 3 marks)**

**2** There is a fencing competition on Saturday.  
The Eagles club sends these 4 people.

Nick      Chris      Aaron      Bill

They need to choose teams of 3 people for each match in the competition.

List all the possible teams of 3 people from the Eagles club.

(2)

Write your answer in the box below.

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



- 3 Eli organises a fencing competition.  
She needs a time plan for the competition.

The competition has these activities.

- 2 rounds (each round lasts  $1\frac{1}{4}$  hours)
- semi-finals (30 min)
- finals (45 min)
- medal ceremony (20 min)

The competition starts at 9 am.

Leave a gap of 15 minutes between activities.

The time plan must show the activities in order.  
It must also show the start time and the end time for each activity.

(a) Make a time plan for Eli.

(4)



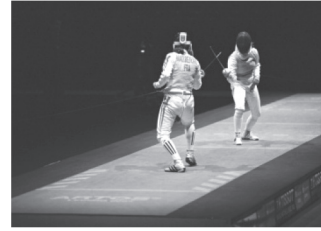
Write your time plan in the box below.



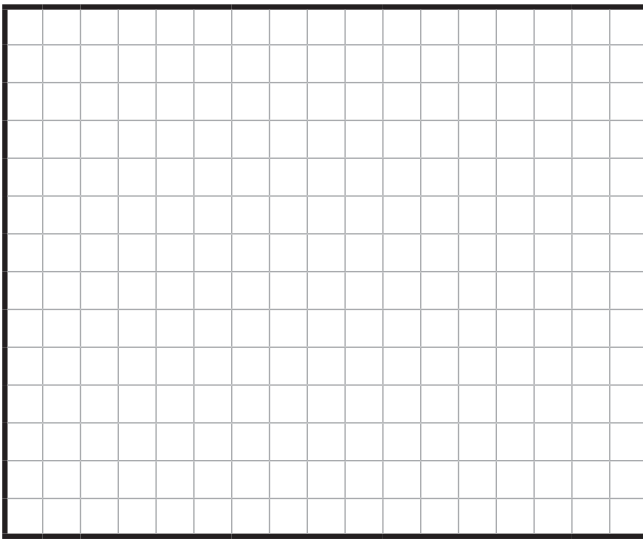
Eli wants to set up the final so that people can watch the fencing.

The mat for fencing is rectangular 14 m long and 2 m wide. It must be placed at least 2 m away from the walls.

Eli draws a plan of the sports hall floor on a grid.



(b) Draw the mat on the grid for Eli.  
Remember to use the key. (2)



Key: 1 square on the grid is 2 m by 2 m  
in the sports hall  
— wall

(Total for Question 3 is 6 marks)

4 Eli needs to know if the competition made a profit.  
The tables show the income and the costs.

Income	
Sponsorship	£75
Entry fees	12 teams each pay £54

Costs	
Sports hall hire	£270
Equipment hire	5 sets at £81 each
Medals and prizes	£23

She needs to know if the income is enough to pay all of the costs.

Did the competition make a profit? (5)



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 4 is 5 marks)**



## SECTION B: The supermarket

Answer all questions in this section.

Write your answers in the spaces provided.

- 5 Sonia is the manager of a supermarket.

She keeps a record of the number of customers who shop at the supermarket each day for one week.

Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Number of customers	683	588	602	794	935	981	754

Sonia wants to know the range in the number of customers who shop at the supermarket that week.

(a) Work out the range for Sonia.

(1)

Write your answer in the box below.

Sonia says

'on average more than 750 people visit the supermarket each day'.

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

(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.



P 4 4 2 9 9 A 0 9 2 0

Sonia wants to plan some events at her supermarket.

She needs to know if customers are male or female and when they shop.

- Morning
- Afternoon
- Evening

She wants to collect this information on a single sheet of paper.

(c) Design a data collection sheet for Sonia.

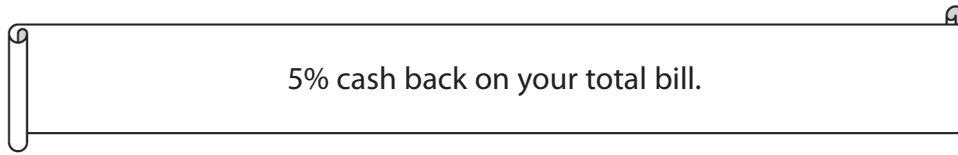
(3)

Use the box below for your data collection sheet.

**(Total for Question 5 is 7 marks)**



6 Wendy sees this offer at the supermarket.



Wendy spends £40  
She thinks she will get £3 cash back.

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

(3)

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



A large empty rectangular box for writing the answer.



P 4 4 2 9 9 A 0 1 1 2 0

Dan goes to the supermarket.  
He sees the Tasty Selection.

**Tasty Selection**

Salmon fillets (2 per pack)	£4
Fresh taste salad	£1.50
New potatoes (1 kg)	£1.40
Raspberry trifle	£2.35
Mango juice	£1.33
Chicken	£3.75

Dan buys these items from the Tasty Selection

- 6 salmon fillets
- 2 raspberry trifles
- 1 kg of new potatoes.

He pays with a £20 note.

(b) How much change should Dan get?  
Show how you have checked your answer.

(6)



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



Use the box below to show how you have checked your answer.

**(Total for Question 6 is 9 marks)**



### SECTION C: The landscape gardener

Answer all questions in this section.

Write your answers in the spaces provided.

- 7 Trev is a landscape gardener.  
He is going to build a patio in a garden.  
He needs to work out the cost of the concrete for the patio.

Trev uses this rule to work out the cost of the concrete in £.

- find the area to be covered by concrete in  $\text{m}^2$
- multiply this area by the depth of concrete in mm
- divide by 1000
- multiply your answer by 120

The patio has an area of  $50 \text{ m}^2$ .  
The depth of concrete is 75mm.

Trev thinks the cost of the concrete is going to be £480

(a) Is Trev correct ?

Show why you think this.

(3)

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



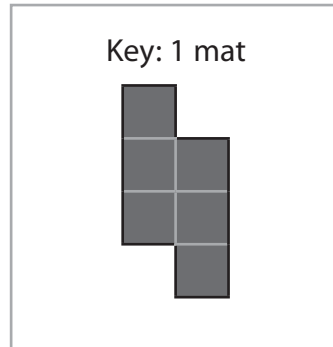
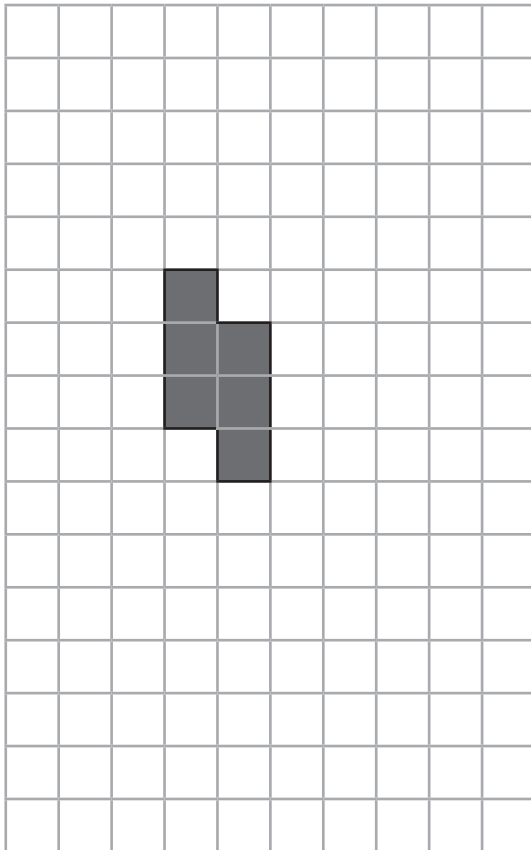
Trev uses mats to print a design onto the concrete.  
He makes the design by placing the mats on the concrete.

Trev wants to place the mats with no overlaps and no gaps.

Trev uses a grid to plan where to place the mats.  
He draws the first mat on the grid.

(b) Show where Trev should place the next 4 mats.

(3)



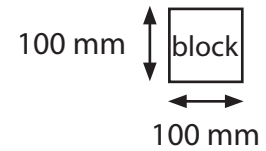
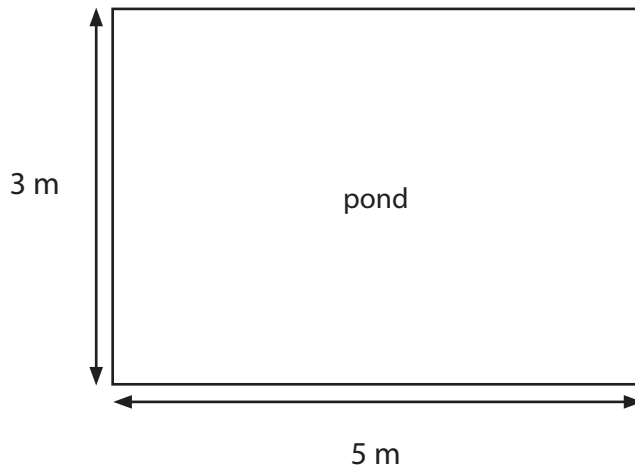
(Total for Question 7 is 6 marks)



8 Trev has to lay stone blocks around the edge of a rectangular pond.

The pond is 5 m long and 3 m wide.

The top of each stone block is a square 100 mm by 100 mm.



Diagrams **NOT** accurately drawn

There must be no gaps between the blocks.

(a) How many blocks does Trev need?

(4)





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



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



Trev needs some fence panels for a garden.

Garden Prime sells fence panels for £42 each.

Trev needs 15 fence panels.

(b) How much would Trev pay in total for the fence panels at Garden Prime?

(2)

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



Trev sees this advert.

**Better Fences**

Fence panels £86 each

Pack of 10 fence panels  
£800

**SALE**

Everything  $\frac{1}{2}$  price

Trev wants to pay the cheapest total price for the 15 fence panels.

(c) Are 15 fence panels cheaper at Garden Prime or at Better Fences?

(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 and calculations.

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**(Total for Question 8 is 10 marks)**

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**TOTAL FOR PAPER = 48 MARKS**



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