

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



6–10 January 2014

**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.**
- **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: The potato farm

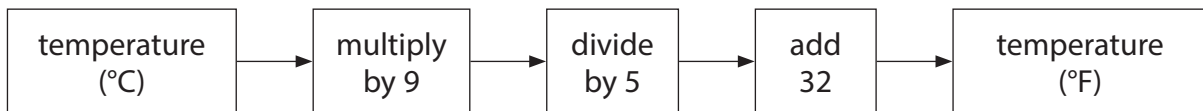
Answer all questions in this section.

Write your answers in the spaces provided.

- 1 Robert grows potatoes on his farm.  
He digs up some potatoes and puts them in his cold store.

He knows he should keep these potatoes at a temperature in the range  $38^{\circ}\text{F}$  to  $41^{\circ}\text{F}$ .  
The temperature in the cold store is  $4^{\circ}\text{C}$ .

Here is a rule to change Celsius ( $^{\circ}\text{C}$ ) to Fahrenheit ( $^{\circ}\text{F}$ ).



(a) Is the temperature in the cold store in the range  $38^{\circ}\text{F}$  to  $41^{\circ}\text{F}$ ?

(2)

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



Robert sells potatoes to local shops.

He gives a discount of 5% for orders over £100

A shop places an order worth £150

(b) What is 5% of £150?

Show how you have checked your answer.

(3)

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



Write your check in the box below.



(Total for Question 1 is 5 marks)



P 4 4 3 0 6 A 0 3 2 0

- 2 Robert packs potatoes into bags.  
He then packs the bags into boxes to sell to shops.

Robert has these orders.

Browns	25 boxes
Smith & Son	35 boxes
Patel & Co	30 boxes

There are 10 bags of potatoes in each box.  
There are 2 kg of potatoes in each bag.

Robert has 3 tonnes of potatoes in the cold store.

Use 1 tonne = 1000 kg

Does Robert have enough potatoes for these orders in total?

(5)

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



Blank area for writing the answer to Question 2.

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



3 Robert has to make some deliveries today.

The diagram shows the distances in miles between his farm, Dalton, Bow and Mere.

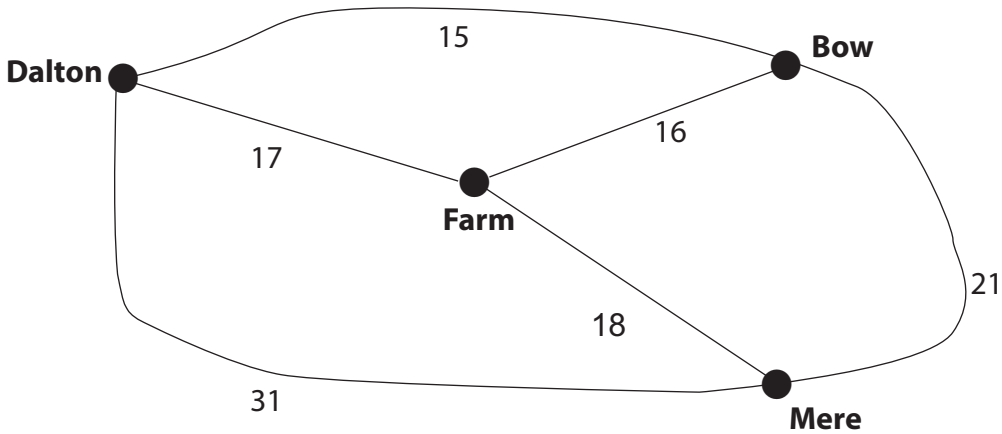


Diagram **NOT** accurately drawn

Robert is going to

- start from his farm
- go to all three of Dalton, Bow and Mere
- return to his farm.

He wants to drive as few miles as possible.

(a) What is the shortest route?  
How many miles must Robert drive?

(3)

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



Large empty box for showing the solution.



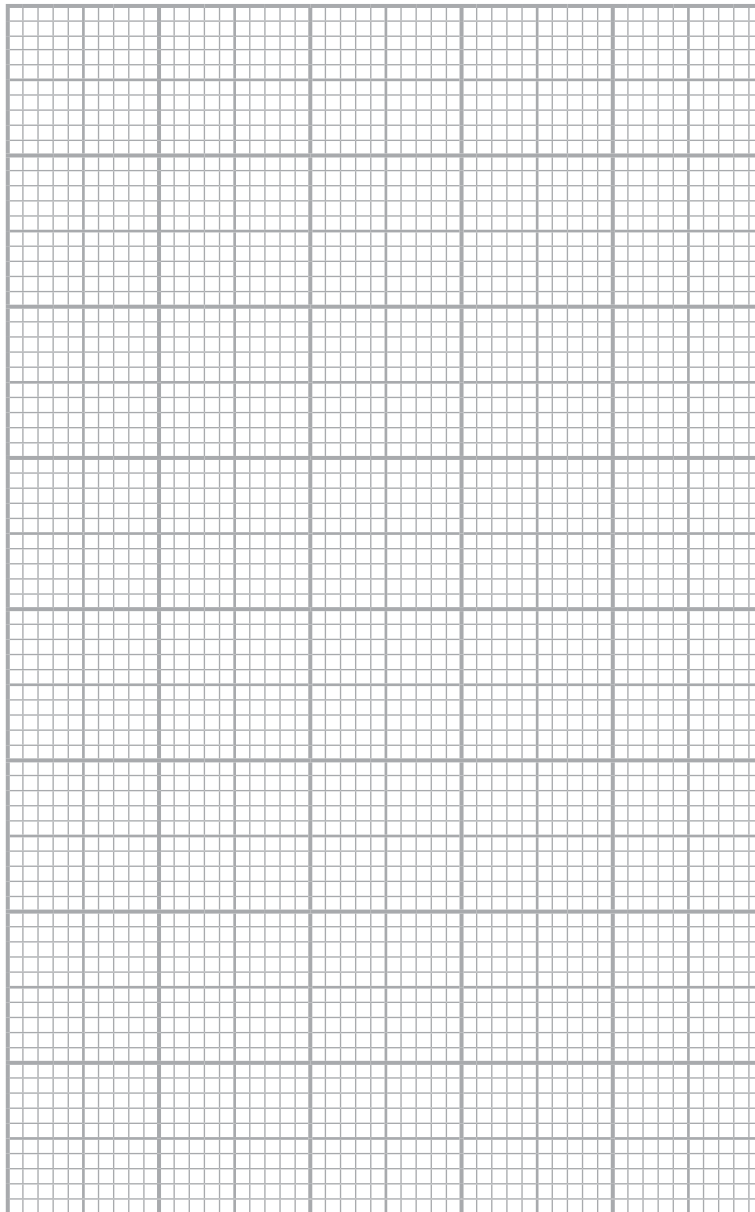
Robert has this information about the income from the farm for each three month period last year.

Farm income (£ thousands)			
Jan – Mar	Apr – Jun	Jul – Sep	Oct – Dec
23	21	22	24

He wants to draw a graph or chart to display this information for a meeting.

(b) Draw a graph or chart for Robert.

(3)



(Total for Question 3 is 6 marks)



**SECTION B: The rugby tournament**

**Answer all questions in this section.**

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

- 4** Simon is a coach for a rugby club.  
The club enters a rugby tournament.

The entry fee for the tournament is £45 in total.  
Simon's expenses are £12.60

The club sends 12 players to the tournament.  
Simon charges each player £5

- (a) Does Simon charge the players enough to cover the cost of the entry fee and his expenses?

(4)

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



A large empty rectangular box for writing the answer.





Simon needs to collect information from the players.  
He wants a data collection sheet to record their

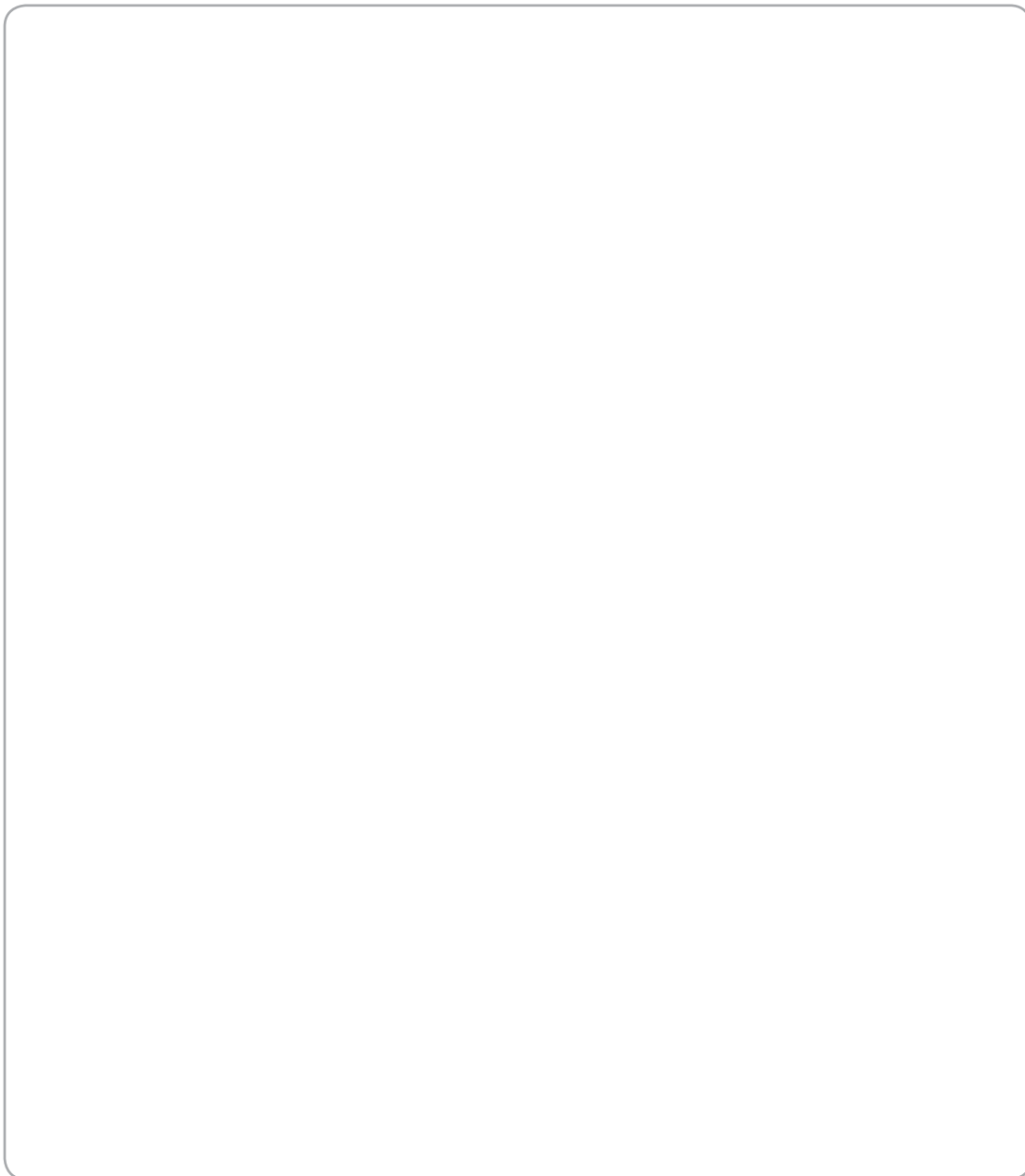
- name
- emergency contact number
- medical information.

Simon wants to show this information for 6 players on one sheet.

(b) Design a data collection sheet to record information from 6 players.

(3)

Use the box below for your data collection sheet.



**(Total for Question 4 is 7 marks)**



5 Simon hopes to be home from the tournament by 4 pm.

He makes some notes.

- First game starts at 11 am.
- 10 games, one after another - allow 20 minutes for each game.
- Presentation 15 minutes.
- Travel time home three quarters of an hour.

Simon is going to stay for the whole tournament.

(a) Can Simon be home by 4 pm?

(4)

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



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



Simon thinks the hardest club to beat will be The Tigers.  
Here are the results of the last 8 times Simon's club played The Tigers.

Simon's club	Win	Draw	Win	Lose	Win	Win	Lose	Win
--------------	-----	------	-----	------	-----	-----	------	-----

(b) Who is more likely to win?  
Give a reason for your answer. (1)

Write your answer and your reason in the box below.



Simon needs to pick the players to play The Tigers.  
Caleb is one of the players Simon can pick.  
Caleb says

Play me against The Tigers.  
My average score is 5 points a game.

The table shows the points Caleb scored in the last 8 games.

Points Caleb scored in each game							
3	5	6	7	4	3	10	2

(c) Is Caleb's average score 5 points a game? (3)

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



**(Total for Question 5 is 8 marks)**



6 Caleb wants to take a course to be a referee.

He finds this information about courses available in March 2015.

Date	Location	County	Postcode
14/3/15	Hook	Hants	RG29 1TB
19/3/15	Farnham	Surrey	GU9 9ND
21/3/15	Egham	Surrey	TW20 0EX
22/3/15	Beaconsfield	Bucks	HP9 2SQ
23/3/15	Marlow	Bucks	SL7 1QU

Here is the March 2015 calendar.

Mon	Tue	Wed	Thu	Fri	Sat	Sun
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Caleb needs a course in Surrey on a Saturday in March 2015.

He thinks the course at Farnham is suitable for him.

Caleb is wrong.

Explain why Caleb is wrong.

(1)

Write your answer in the box below.

(Total for Question 6 is 1 mark)



### SECTION C: The college student

Answer all questions in this section.

Write your answers in the spaces provided.

- 7 Elena goes to college in the morning.  
She does babysitting and cleaning and gardening to earn money.  
She has three new jobs to put in her diary for next week.

Ms Ash	cleaning	3 hours Wed or 3 hours Thu start at 4 pm or later
Mr James	gardening	2 hours Mon or 2 hours Tue must be finished by 6 pm
Gloria D	babysitting	$2\frac{1}{2}$ hours Mon start at 3 pm

Here is Elena's diary for next week.  
She has put in the jobs she already has.

Time	Mon	Tue	Wed	Thu	Fri
2:00 – 2:30		Mrs Patel		Ms Dent	
2:30 – 3:00					
3:00 – 3:30					
3:30 – 4:00					
4:00 – 4:30					
4:30 – 5:00					
5:00 – 5:30					Miss Fry
5:30 – 6:00					
6:00 – 6:30	Mia B		Mr Hall		
6:30 – 7:00		Kerry S			
7:00 – 7:30					
7:30 – 8:00					

(a) Put the three new jobs in the diary for Elena.

(5)



Elena keeps a record of the work she does.  
This is her record for last week.

Type of work	Hours worked		
Babysitting	$2\frac{1}{2}$	$1\frac{1}{2}$	
Cleaning	5	3	4
Gardening	6		

The table below shows her hourly pay for each type of work.

Type of work	Hourly pay
Babysitting	£7
Cleaning	£8
Gardening	£9.50

(b) How much money did Elena get last week?

(3)

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



(Total for Question 7 is 8 marks)



- 8 Elena works in Ms Dent's garden.  
She has to put lawn feed on the lawn.

The lawn is rectangular 14 m by 10 m.

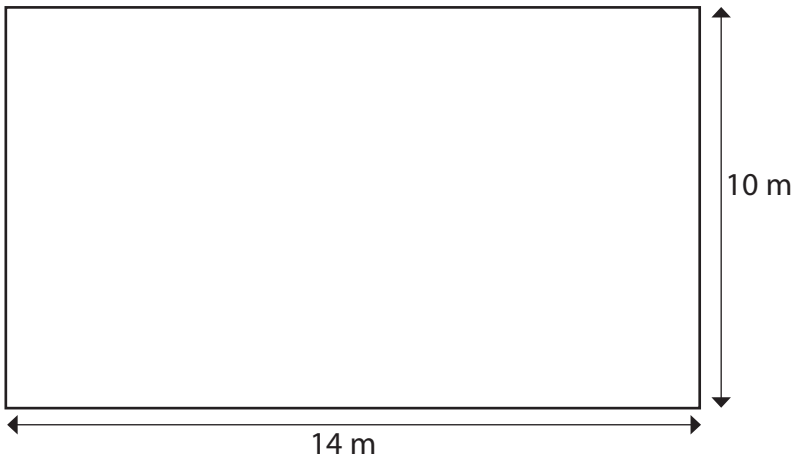


Diagram **NOT**  
accurately drawn

Ms Dent asks Elena to buy the lawn feed.  
A box of lawn feed has enough for  $80 \text{ m}^2$  of lawn.

(a) How many boxes of lawn feed does Elena need to buy?

(3)

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



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





Elena has to feed the tomato plants.

Ms Dent says

'Use 1 teaspoon of feed for every 5 litres of water.'

Elena is going to use 2 teaspoons of feed.

(b) How much water should Elena use?

(2)

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.

**(Total for Question 8 is 5 marks)**



P 4 4 3 0 6 A 0 1 7 2 0

9 Ms Dent wants to put a large shed in the garden.

She asks Elena for advice.

Elena makes a plan of the garden.

The shed needs

- a rectangular space 6 m by 4 m
- to be at least 2 m from each of the trees
- to be at least 4 m from the greenhouse.

Ms Dent does not want the shed on the lawn.

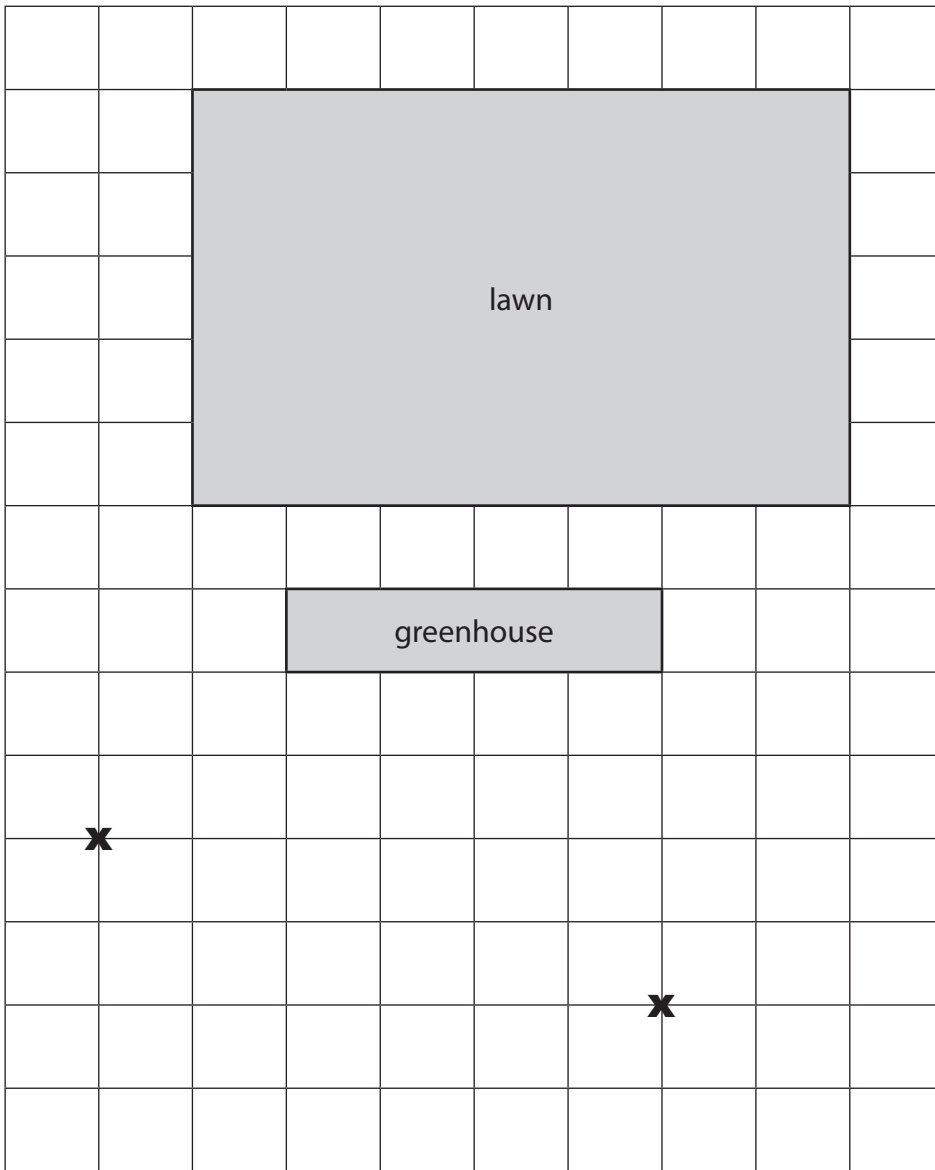
Draw a space for the shed on the plan.  
Remember to use the key.

(3)



Key: 1 square on the plan is 2 m by 2 m in the garden

**X** tree



(Total for Question 9 is 3 marks)

**TOTAL FOR PAPER IS 48 MARKS**



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