

Write your name here

Surname

Other names

**Pearson Edexcel  
Functional Skills**

Centre Number

Candidate Number

**Mathematics**

**Level 2**



Sample Assessment Material

**Time: 1 hour 30 minutes**

Paper Reference

**FSM02/01**

**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 a **black** 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.*
- **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.**
- **This sign shows where marks will be awarded for showing your check.**



### 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: In the kitchen**

**Answer all questions in this section.**

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

- 1 Donna wants to bake choc chip cookies.  
She finds this list of ingredients.

**Choc chip cookies**

140 g butter, softened  
150 g sugar  
2 eggs  
200 g self raising flour  
175 g malted milk powder  
100 g bar dark chocolate

Donna wants to make as many cookies as she can.  
She has 3 eggs.  
She has plenty of all the other ingredients.

- (a) How much butter should Donna use?  
Show a check of your working.

(4)

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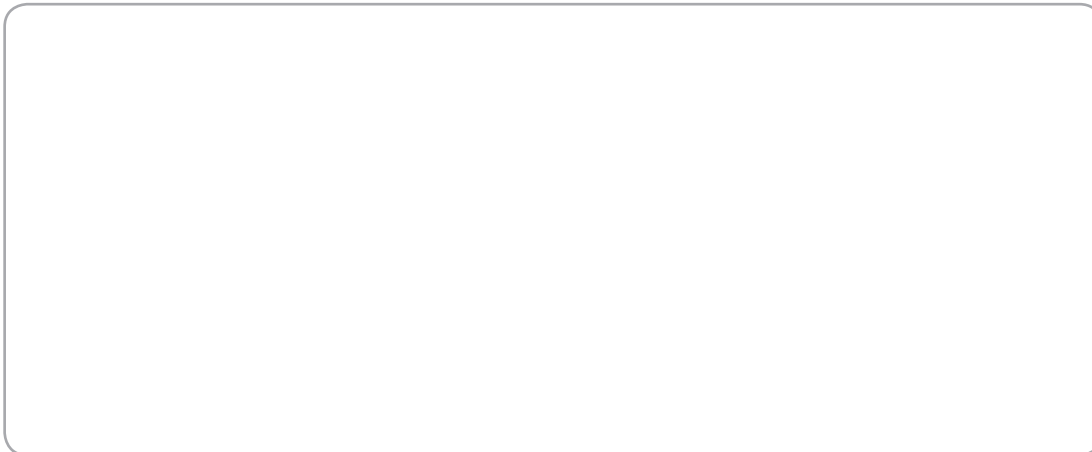
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Use the box below to show clearly how you get your answer.



Use the box below to show your check.



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Donna makes some small cakes.

She makes 3 vanilla, 4 strawberry and 5 chocolate cakes.

Donna puts the cakes in a tin.

Her friend chooses a cake without looking.

(b) What is the probability that the friend chooses a chocolate cake?

(2)

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

(Total for Question 1 is 6 marks)

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- 2 Donna wants to buy a new blender.  
She finds this sale deal in her local shop.

**Blender**  
£129.99  
20% discount today

Donna wants to compare this with the online price.  
She finds the same blender for £99.99 + delivery.  
The delivery charge is £4.95

Should Donna buy the blender from the local shop or online?  
Justify your answer. (4)

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

(Total for Question 2 is 4 marks)

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- 3 Donna cooks Sunday lunch for her family.  
She has these instructions for roast beef.

Take your beef out of the fridge 30 minutes before roasting it.

	Roasting times	Oven temperature	Internal temperature
<b>Rare</b>	20 min per 450 g (1 lb) + 20 min	180 °C / Gas 4	60 °C
<b>Medium</b>	25 min per 450 g (1 lb) + 25 min	180 °C / Gas 4	70 °C
<b>Well done</b>	30 min per 450 g (1 lb) + 30 min	180 °C / Gas 4	80 °C

When the beef is cooked, leave it to rest for 15 minutes before serving.

Donna has a piece of beef that weighs 1.5 kg.  
Her family like their beef medium.

She wants to serve the meal at 1pm.

What time should Donna take the beef out of the fridge?  
Remember to check your answer.

(6)

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



(Total for Question 3 is 6 marks)

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**SECTION B: The caravan site**

**Answer all questions in this section.**

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

- 4** Jamie wants to open a small caravan site.  
He has a rectangular field 34 m by 24 m.

Jamie wants to mark out the pitches for 4 caravans in the field.

He wants each pitch to be a rectangular space with area  $80 \text{ m}^2$ .

There must be a gap of at least 6 m between the pitches.

Jamie makes a scale drawing of the field.

- (a) Draw the pitches for the caravans on the diagram on page 9.

(3)

Jamie needs to check that his plan is sensible.

- (b) Evaluate the effectiveness of your plan.

(1)

Write a comment in the box below.

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Gate



Scale 1:200

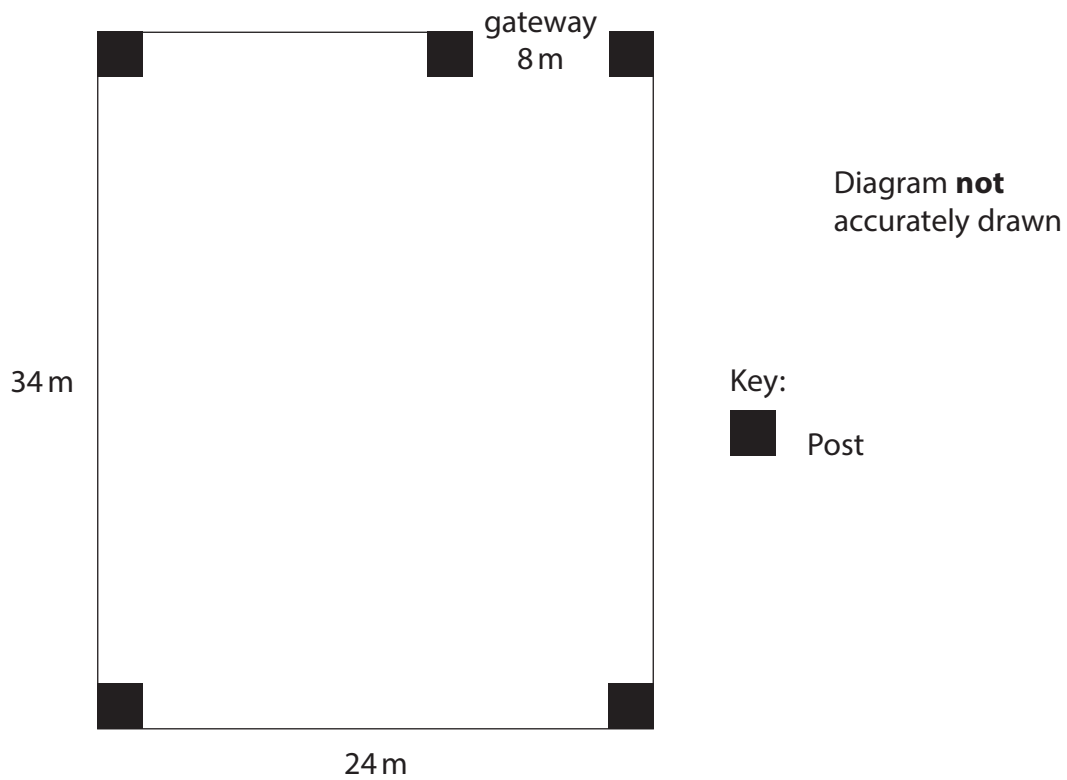
(Total for Question 4 is 4 marks)



5 Jamie wants to put a new fence around the perimeter of the field.

He needs to work out how many posts he needs for the fence.  
He is going to put the posts 2 m apart all round the field.

Jamie draws a sketch of the field.  
He shows the posts for the corners and the gate.  
He needs to work out where to put the rest of the posts.



(a) How many posts will Jamie need in total?

(4)

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

Empty box for showing the solution.

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Jamie needs 195 m of electrical cable to provide power to the caravans.  
The cost of the cable is £22.95 for 5 m.

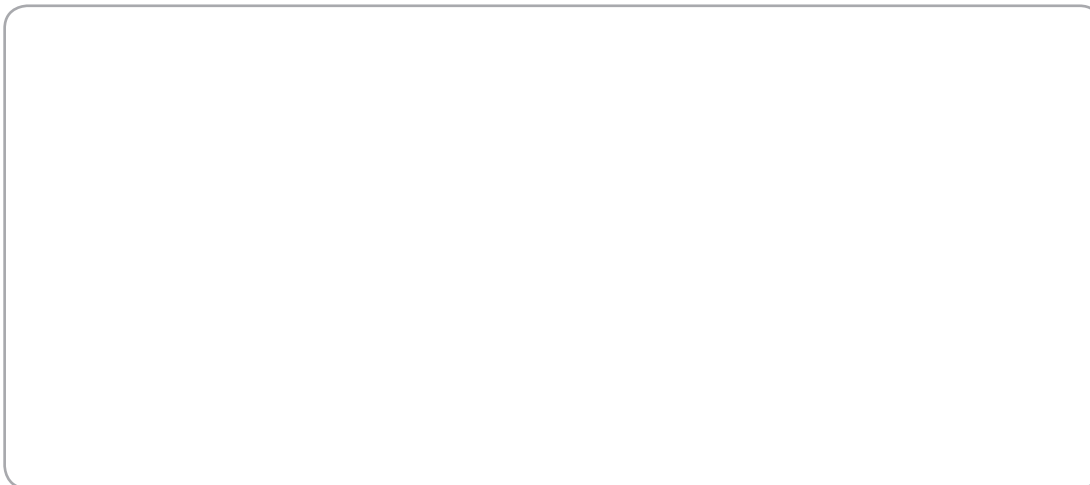
- (b) Find the cost of the cable for Jamie.  
Check your working and evaluate your check.

(4)

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



Use the box below to show your check and write your evaluation.



(Total for Question 5 is 8 marks)



6 Jamie wants to take bookings for the caravan site.

He has 4 pitches.

He gets bookings from these families.

Jones Sat 10th June 3 nights

Evans Mon 5th for 10 nights

Patel Mon 12th for 3 nights

Lynch Sat 3rd for 7 nights

Brown Mon 12th for 4 nights.

Jamie needs a booking sheet to show the dates between Saturday 3rd June and Friday 16th June.

He needs to show when each family will be on each pitch.

Design a booking sheet for Jamie.  
Show the bookings on your sheet.

(4)

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Use the box below for your booking sheet.



(Total for Question 6 is 4 marks)

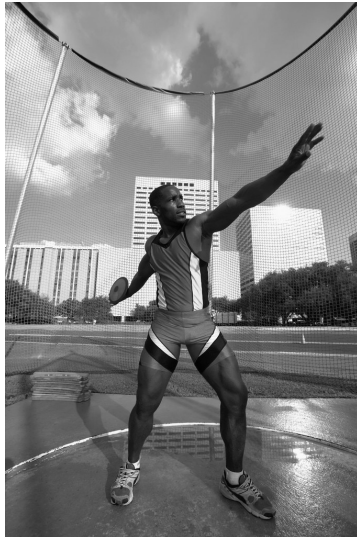


**SECTION C: Discus**

**Answer all questions in this section.**

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

- 7 Roger works at an athletics club.



He needs concrete to make 3 throwing circles.

Each throwing circle must have a diameter of 2.50 m.

The concrete must have a depth of 100 mm.

Roger knows that he can use  $A = \pi r^2$  to find the area of a circle.

He also knows that the volume of concrete is the area multiplied by the depth.

- (a) How much concrete will Roger need for 3 throwing circles?  
Give your answer in  $\text{m}^3$  to 2 decimal places.

(6)

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

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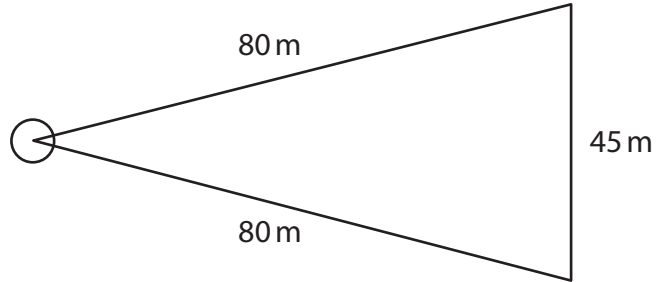
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Roger has to mark out the discus throwing area.  
He knows that

- the throwing area must be an isosceles triangle
- the long sides of the triangle must be 80 m
- the ratio of each long side of the triangle to the short side must be 5:3

Roger draws a sketch of the throwing area.

Diagram **not**  
accurately drawn



- (b) Are the lengths on the sketch correct?  
Show how you have checked your working.

(4)

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

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



(Total for Question 7 is 10 marks)





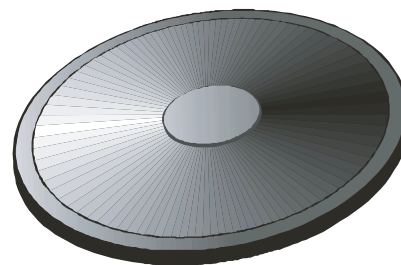
- 8 Dennis is the discus coach at the athletics club.  
He has an old discus.

Dennis wants to know if he can use this discus for training.

The weight of the discus is 4.4 pounds.

Dennis knows that a discus for men should have a weight of 2 kg.

He also knows  $1 \text{ pound} = 0.454 \text{ kg}$ .



(a) Can Dennis use this discus for training?

(2)

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



In a discus competition the person who throws the greatest distance wins. Dennis has to select a discus thrower for the next competition. He wants to choose between Andy, Barry and Chas.

The table shows their best distances (metres) in the last four competitions.

	1	2	3	4
Andy		35.24	34.02	38.40
Barry	36.35	31.24	38.91	33.21
Chas	30.28	32.46	35	37.81

Andy missed the first competition and has only 3 results.

Dennis wants to use these results to select the thrower. He will use a graph or calculations to justify his choice.

(b) Choose a discus thrower for Dennis.  
Use a graph **or** calculations to justify your choice.

(4)

Write your answer in the box below.

Dennis should choose...

because...

You can use this box to show your calculations.

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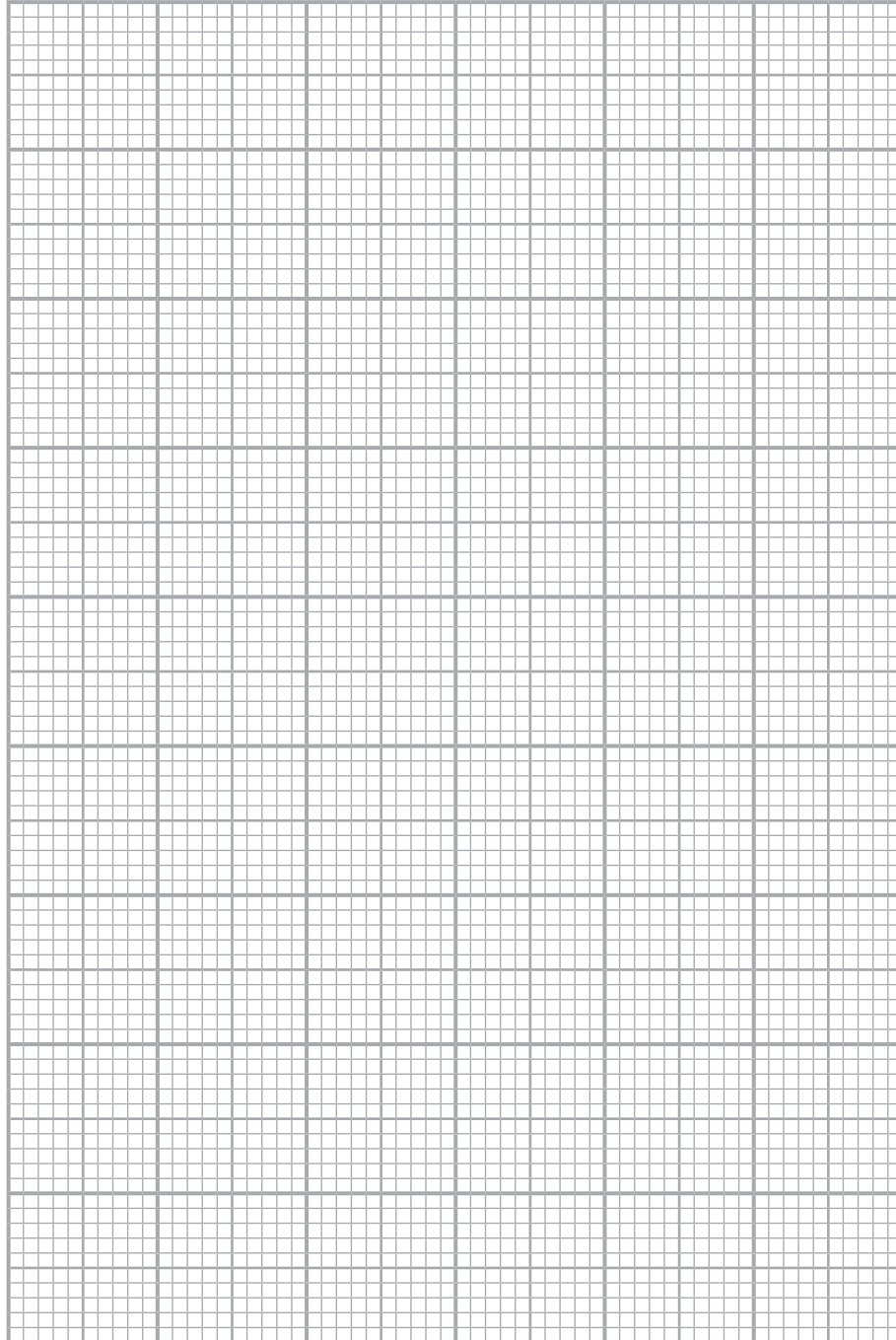
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You can draw a graph on the grid below.



(Total for Question 8 is 6 marks)

**TOTAL FOR PAPER IS 48 MARKS**



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