

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 2



11 – 15 January 2016

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: Jobs around the house

Answer all questions in this section.

Write your answers in the spaces provided.

1 Tomas is cooking a turkey.

The turkey weighs 6.7 kg.

The recipe tells him the turkey must be cooked for 40 minutes per kg.

The turkey must be left to stand for 25 minutes before serving.

He wants to serve the meal at 1pm.

What is the latest time Tomas should start to cook the turkey?

(3)

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

(Total for Question 1 is 3 marks)

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2 Tomas is going to make a curtain for a window.



The width of curtain must be $2\frac{1}{2}$ times the width of the window.

The window is 52 cm wide.

Tomas has some material that is 135 cm wide.

- (a) Is the material wide enough to make the curtain?
Show a check of your working.

(3)

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

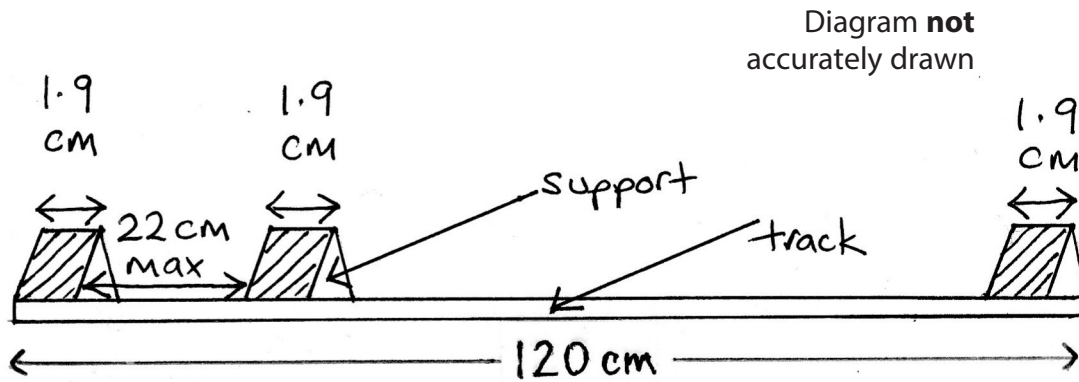
Show your check in the box below.



Tomas wants to put up a 120 cm long curtain track.
The track will fasten to the wall using supports.

There will be a support at each end of the track.
There must be a maximum distance of 22 cm between supports.
Each support is 1.9 cm wide.

Tomas starts to sketch the track.



Tomas has 6 supports.

(b) Does Tomas have enough supports for his curtain track?

(3)

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

(Total for Question 2 is 6 marks)



- 3 Tomas plans to work in his garden on a day when it is least likely to rain. He checks the weather forecast for the following week.

	Monday	Tuesday	Wednesday	Thursday	Friday
Probability of rain	18%	12%	73%	61%	20%

Tomas plans to work in his garden on Tuesday.

(a) What is the probability that it will not rain on Tuesday?

(1)

Use the box below for your answer.



Tomas has built a raised flower bed in his garden.

He is going to fill the flower bed with compost.

Tomas uses this formula to work out the amount of compost he needs to fill the flower bed.

$$P = 3.14 \times r^2 \times d$$

r = radius of flower bed (cm)

d = depth of flower bed (cm)

P = amount of compost (cm^3)

The flower bed has

- radius 80 cm
- depth 28 cm.

He sees this special offer.

Special Offer

50-litre bags of compost

£5.69 per bag

Buy 10 or more bags and save £0.50 per bag

Buy 30 or more bags and save £0.85 per bag

Buy 60 or more bags and save £1.14 per bag

Tomas knows that 1 litre = 1000 cm^3 .

(b) Work out how much it will cost Tomas to buy all the bags of compost he needs.

(6)

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

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(Total for Question 3 is 7 marks)



SECTION B: Salespeople

Answer all questions in this section.

Write your answers in the spaces provided.

- 4** Rick is a salesperson. His manager wants to show Rick his sales targets and his actual sales for the four quarters of last year.

Quarter	Sales target (£)	Actual sales (£)
Quarter 1	34 300	30 200
Quarter 2	42 100	39 600
Quarter 3	45 000	51 300
Quarter 4	38 900	35 200

He thinks this information would be easier to compare using a graph.

- (a) Draw a suitable graph that can be used to compare the information.

(3)

Use the graph paper on page 9 to draw your graph.

- (b) Use your graph to make a comment comparing Rick's sales targets and his actual sales.

(2)

Write your comment in the box below.

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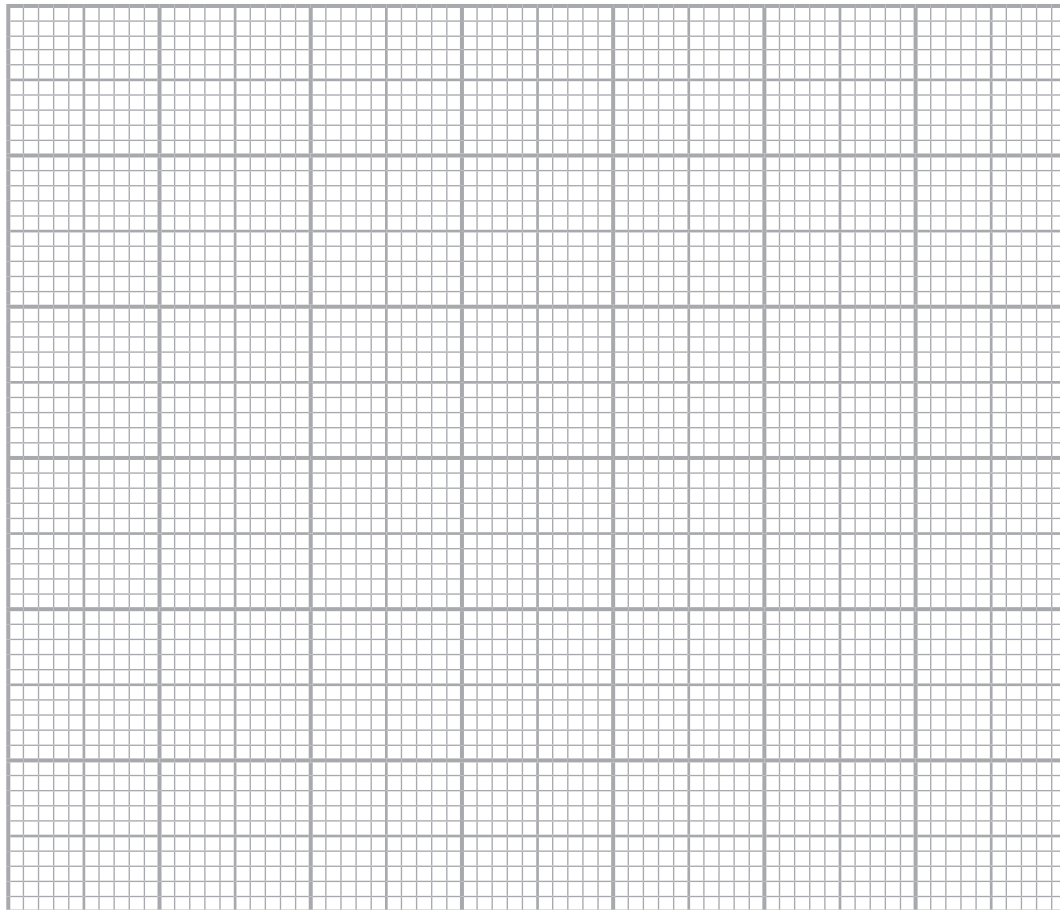
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(Total for Question 4 is 5 marks)



- 5 Caz is offered a new contract at work.
He can choose how he would like to be paid.

Option A	Option B	Option C
Salary £37 200 per year	18% of the value of his sales each month	£1000 each month plus $\frac{1}{8}$ of the value of his sales each month

Caz expects to make sales of £21 500 each month.
He wants to be paid as much as possible.

Which option should Caz choose?
Show why you think this.

(5)

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

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(Total for Question 5 is 5 marks)



- 6 Rita is the manager of a store.
She needs the ratio of morning staff to afternoon staff to be 3:2
Rita can employ a total of 160 staff.

(a) How many morning staff and afternoon staff should Rita employ?

(3)

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



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Lucy and Amra work as salespeople in Rita's store.

Here are the sales figures for Lucy for the last 6 months.

£18 600 £19 120 £14 160 £21 650 £20 300 £15 940

Amra has a mean average sales figure of £19 065 for the last 6 months.

(b) Who has the better mean average?
Show a check of your working.

(3)

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

Show your check in the box below.



(Total for Question 6 is 6 marks)



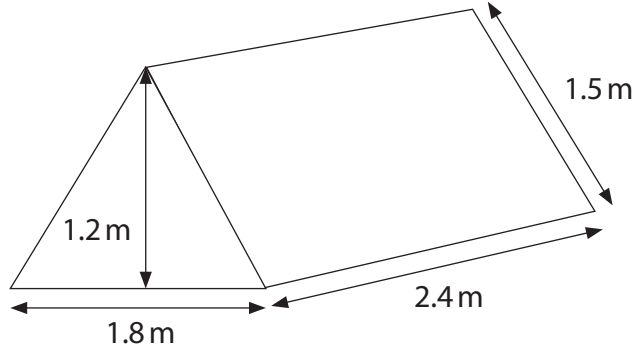
SECTION C: Camping

Answer all questions in this section.

Write your answers in the spaces provided.

- 7 Asta is planning a camping holiday.
She needs to cover her tent with waterproof spray.

Here is a sketch of her tent.



Asta has 750 ml of waterproof spray.
1 litre of waterproof spray covers 16 m^2 .

She has to cover the 2 ends and the 2 sides on the outside of the tent.

(a) Does Asta have enough waterproof spray?

(5)

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

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Asta needs a spanner for a $\frac{5}{8}$ inch nut on her camping stove.

The shop sells 12 mm spanners, 14 mm spanners and 16 mm spanners.

Asta knows that 1 inch = 2.54 cm.

(b) What is the best size spanner for Asta to buy?

(3)

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

Empty box for showing the solution to the problem.

(Total for Question 7 is 8 marks)



8 Asta and her friend Katy are planning a camping trip to France.

They want to spend at least one night at each of these campsites.

Le Lac
20 euros per group
(maximum of 4 in a group)

Les Granges
12 euros per person per night

La Maine
11 euros per person per night
Plus 8 euros per tent

Asta and Katy

- will camp for 5 nights
- have a total budget of £85 for campsites
- will share one tent.

Asta finds out

$$£1 = 1.39 \text{ euros}$$

(a) Plan the trip for Asta and Katy.

(3)

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

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(b) Show how you can use approximation to check your conversion between pounds and euros.
Evaluate the effectiveness of your check.

(2)

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



(Total for Question 8 is 5 marks)



- 9 Tim owns a farm.
He wants to have a campsite in one of his fields.



The campsite must be

- at least 15 m from any fence
- square with an area of 1600 m^2 .

Tim draws a plan of the field on a grid.

Draw a space for the campsite on the plan.
Remember to use the scale.

(3)

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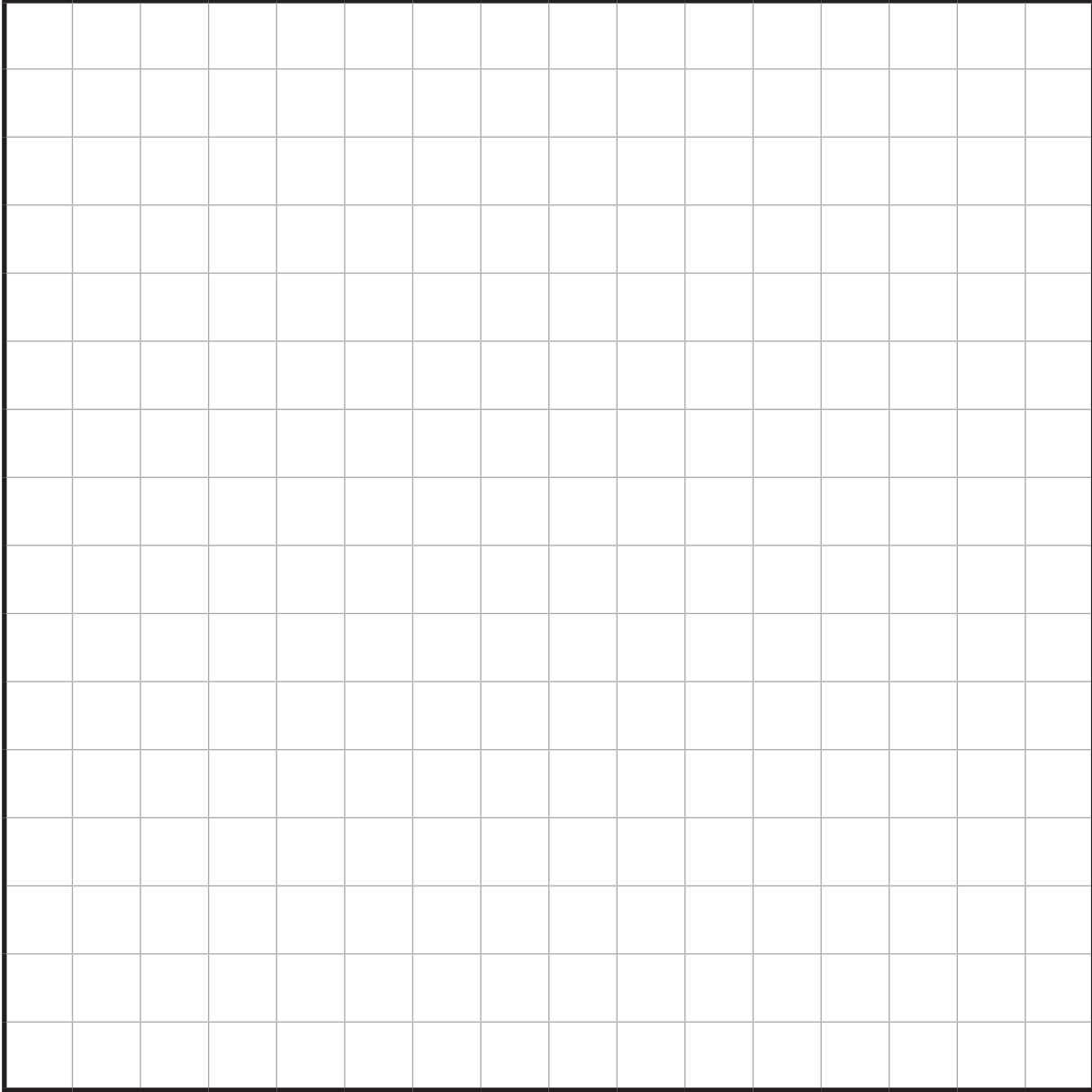
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Scale 1 : 500

Key: Fence 



(Total for Question 9 is 3 marks)

TOTAL FOR PAPER IS 48 MARKS



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