

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



9 – 13 January 2017

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: Catering business

Answer all questions in this section.

Write your answers in the spaces provided.

- 1** Tim starts a catering business.

He wants to buy some business cards.
Tim finds this advert.

250 Business Cards

Normal price £14.70

Special offer 65% off

- (a) What is the price of 250 business cards with the special offer?
Show a check of your working.

(4)

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

Use the box below to show your check.



Tim has a recipe for chocolate mousse.

The recipe is for 8 people.

The recipe needs 200 g of chocolate.

Tim wants to make chocolate mousse for 50 people.

He buys bars of chocolate for the mousse.

One bar of chocolate weighs 150 g.

(b) How many bars of chocolate does Tim need to buy?

(4)

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

(Total for Question 1 is 8 marks)



2 Tim prepares meals for up to 3 customers each day.

He designs an order form.

Tim wants the order form to show the

- items available
- cost of each item
- total number of each item to prepare
- total cost for each customer
- total cost for the day.

Tim fills in the order form for Monday.

customer name		Alba		Dan		Mary		
item	cost of 1 item	quantity	cost (£)	quantity	cost (£)	quantity	cost (£)	total cost
roast lamb	£9.95	4	39.80	–	–	1	9.95	49.75
fish pie	£8.50	1	8.50	10	85.00	1	8.50	102.00
bean stew	£7.95	–	–	–	–	4	31.80	31.80
choc mousse	£5.50	5	27.50	–	–	–	–	27.50
apple tart	£5.50	–	–	10	55.00	6	33.00	88.00
total number of items to prepare		10		20		12		

Tim finds that this order form does not show all the information he needs.

What can Tim do to improve the order form?
Give 2 improvements.

(2)



Write your answer in the box below.

(Total for Question 2 is 2 marks)



3 Tim wants to cook some lamb.

He has these instructions to cook the lamb.

Cook at 180°C for 25 mins per pound in weight plus 20 mins

The lamb weighs 3.5 kg.

1 kg = 2.2 pounds

(a) How long will it take to cook the lamb?

(3)

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

Blank box for showing the solution to the problem.

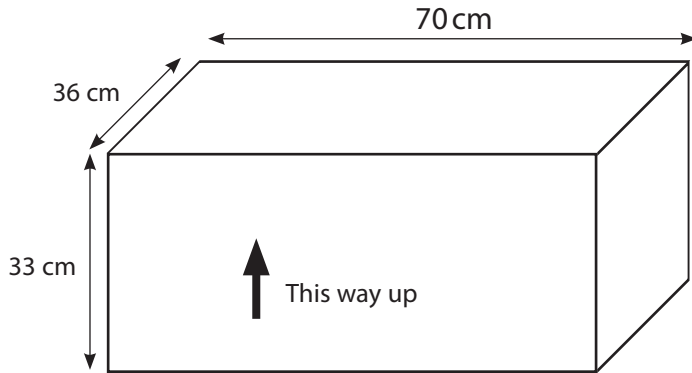


Tim puts each meal into a box.

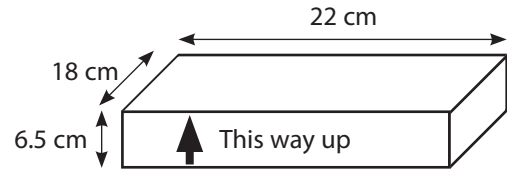
Each box is in the shape of a cuboid 22 cm by 18 cm by 6.5 cm.

The boxes will then be stacked into crates.

A crate is in the shape of a cuboid 70 cm by 36 cm by 33 cm.



Diagrams **not** accurately drawn



Each box must be placed in the crate so that the arrow on the side of the box points upwards.

Tim can stack the boxes on top of each other.

He thinks he can place a maximum of 24 boxes into one crate.

(b) Is Tim correct?

Show why you think this.

(3)

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

(Total for Question 3 is 6 marks)



SECTION B: Cruise holiday

Answer all questions in this section.

Write your answers in the spaces provided.

- 4 Omar and Becky want to go on a cruise ship with their 2 children for one week.

The table gives information about the price of different cabins on the cruise ship for one week.

cabin price per person		
inside	outside	deluxe
£1029	£1078	£1615
Special offer		
Book early and pay $\frac{4}{5}$ of the cabin price for all deluxe cabins		
Add 12% to your final price to sit at the Captain's table		

Omar and Becky will book early and they want the family to sit at the Captain's table.

Omar wants to book a deluxe cabin for Becky and himself and an inside cabin for their 2 children.

Becky says

We can book a family cabin for 4 people and sit at the Captain's table for a total of £3000
If we do this instead of booking two cabins we will save over £2000

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

(5)



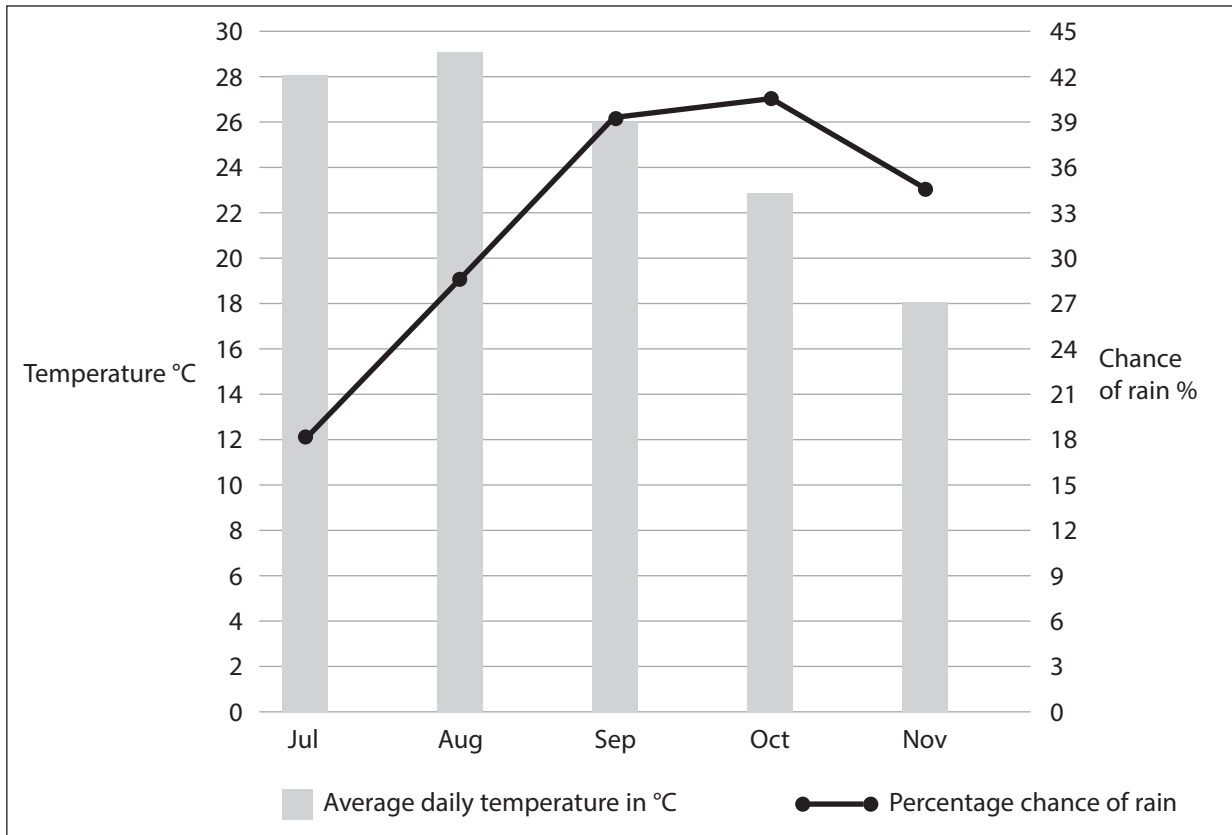
Use the box below to show clearly how you get your answer.



Omar and Becky want to decide which is the best month for them to go on the cruise.

The cruise ship leaves from Barcelona.

Becky finds this information about the climate in Barcelona.



Omar and Becky wish to start their cruise when

- the average daily temperature is above 22°C and below 27°C
- there is the least chance of rain.

(b) Which month should they choose to start their cruise?
Give the month and the climate figures for that month.

(2)

Write your answers in the box below.

(Total for Question 4 is 7 marks)



5 Becky sees a handbag for sale on the cruise ship for €75

She sees the same handbag for sale online for £66

$$\text{£}1.00 = \text{€}1.29$$

Becky wants to pay the cheapest price for the handbag.

Should Becky buy the handbag online or on the ship? (2)

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

(Total for Question 5 is 2 marks)



6 Omar and Becky like to keep fit.

On Tuesday Omar jogs around the promenade deck on the ship for 40 minutes.
He wants to estimate how far he has jogged.

Omar knows that his average jogging speed is 6.5 miles per hour.

(a) Use this information to work out how many miles Omar jogged on Tuesday.
Show a check of your working. (4)

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

Use the box below to show your check.



Becky likes to run 1 lap of the promenade as fast as she can each day.

She records her running time on 5 different days.

- 3 minutes 14 seconds
- 2 minutes 42 seconds
- 2 minutes 59 seconds
- 3 minutes 05 seconds
- 2 minutes 35 seconds

Becky wants to know her mean average running time

(b) Work out her mean average running time.

(3)

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

(Total for Question 6 is 7 marks)



SECTION C: Gardening

Answer all questions in this section.

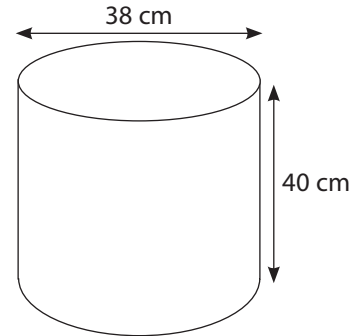
Write your answers in the spaces provided.

- 7 Jane plans to make some improvements to her garden.

She has a plant pot in the shape of a cylinder.
The pot has diameter 38 cm and height 40 cm.

Jane wants to completely fill the pot with compost.
Compost is sold in 20 litre bags.

Jane uses this formula for the volume of the cylinder.



$$V = 0.8d^2h$$

V is the volume in cm^3
d is the diameter in cm
h is the height in cm

1 litre = 1000 cm^3

Jane thinks she needs 2 bags of compost to completely fill the pot.

- (a) Are 2 bags of compost enough to fill the pot?
Show a check of your working.

(5)

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



Use the box below to show your check.



Jane buys the compost from a garden centre.

The checkout assistant sells tickets for a prize draw.
Jane buys 5 tickets.

1000 tickets are sold in total.

One ticket picked at random will win a prize.

(b) What is the probability that Jane will win the prize?
Write your answer as a fraction in its simplest form.

(2)

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

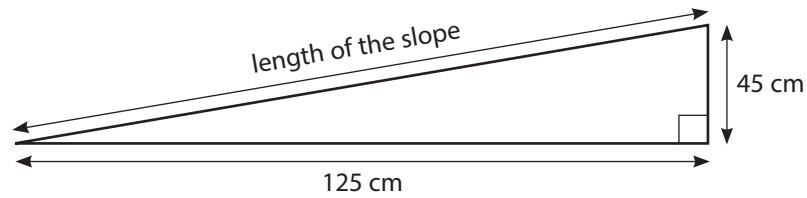
(Total for Question 7 is 7 marks)



- 8 Jane has a raised vegetable patch.
She plans to build a slope leading up to the vegetable patch.

Jane will cover the slope with grass turf.

She draws this sketch of the cross section of the slope.



Jane will use a scale diagram to work out the length of the slope.
She wants to use a scale of 1:10

Draw a scale diagram of the slope for Jane.
Use it to find the length of the slope.

(4)

Use the grid opposite for your diagram.
Use the box below to show clearly how you get your answer.



9 Jane wants to cover this area with gravel.

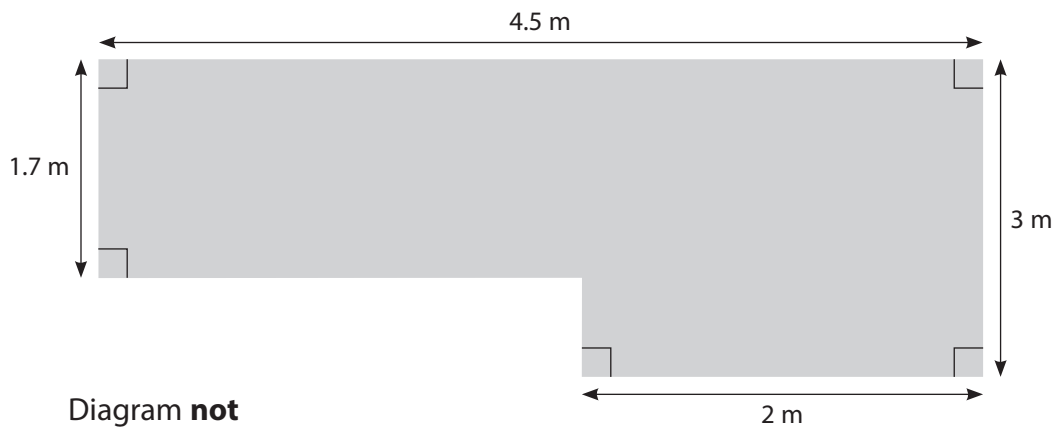


Diagram **not**
accurately drawn

She knows that 34 kg of gravel will cover an area of 1 m^2

How much gravel does Jane need?

(5)



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



(Total for Question 9 is 5 marks)

TOTAL FOR PAPER IS 48 MARKS





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