

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



3–7 November 2014

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 **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: General maintenance

Answer all questions in this section.

Write your answers in the spaces provided.

- 1** Ashraf and Denny do general jobs for people in their homes.

This week Ashraf needs to paint the outside walls of a house.
He is going to paint an area of 450 m^2 .

Ashraf has 7 tins of paint.
Each tin of paint contains 5 litres.

One litre of this paint covers 15 m^2 .

Does Ashraf have enough tins of paint for the outside walls of this house?

(3)

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 1 is 3 marks)

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- 2 Ashraf has to put a water pump in the garden pond.
He needs to get the right size of pump for the pond.

Ashraf uses this formula to find the volume of the pond.

$$V = 3.14r^2h$$

For this pond Ashraf knows

$$r = 2.5 \text{ m}$$

$$h = 1.2 \text{ m}$$

(a) What is the volume of the pond?

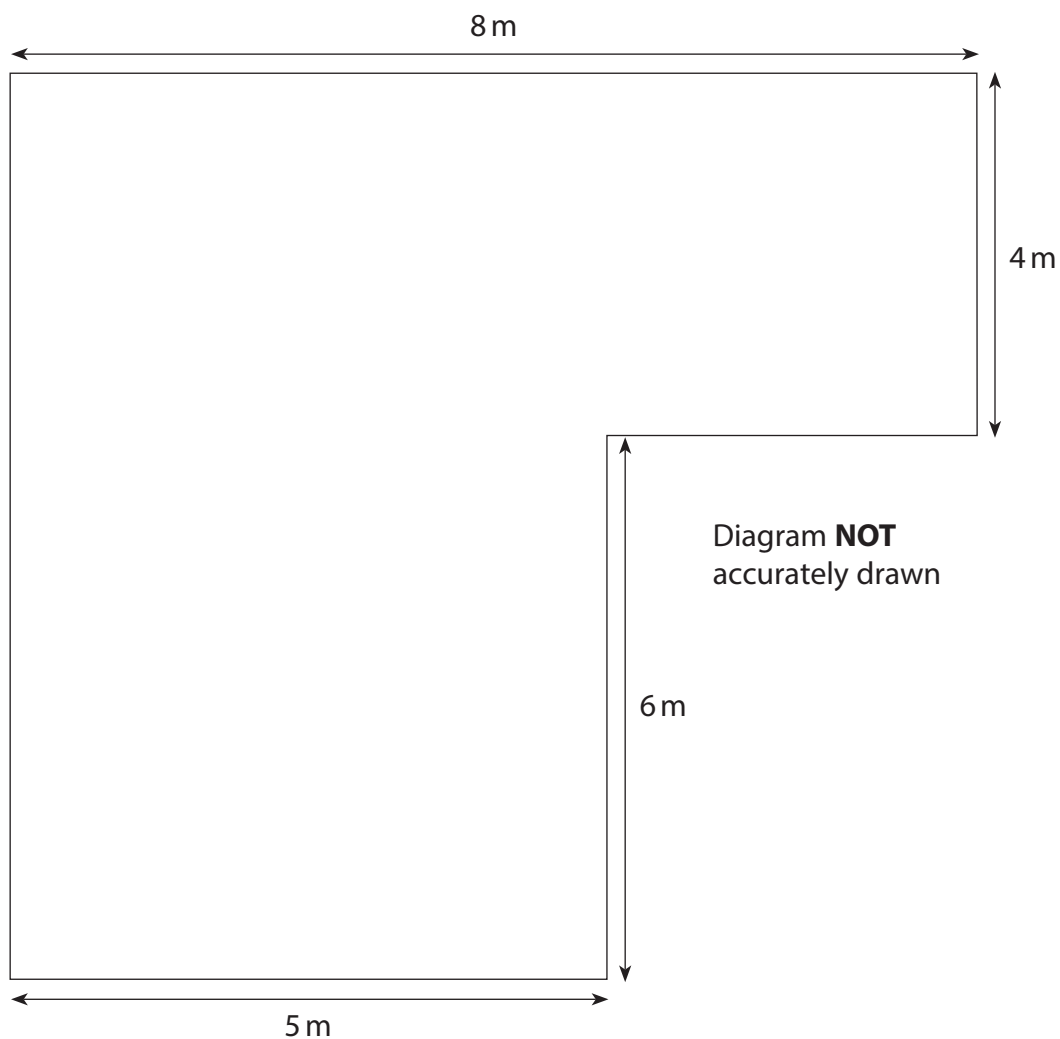
(3)

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



Ashraf is going to put edging along each side of a lawn in the garden.

Here is his sketch of the lawn.



Ashraf can buy the edging from two different stores.

Hardings
lawn edging
1800mm for £6.99

R & S Store
lawn edging
1 m for £9.99
buy 1 m get 1 m free

Ashraf wants to pay as little as possible for the edging.

- (b) Which store should he buy the edging from?
What is the total cost from the cheapest store?

(6)



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



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(Total for Question 2 is 9 marks)



3 Denny goes to buy lunch for himself and Ashraf.

Here is what they want.

Ashraf: Cod, large chips, mushy peas and 2 soft drinks.

Denny: Haddock, sausage, small chips and a soft drink.

Here are the prices at the local takeaway.

Takeaway Menu	
Soft drink	85p
Pie	£1.80
Sausage	£1.10
Cod	£3.80
Haddock	£2.80
Large chips	£1.70
Small chips	£1.30
Mushy peas	90p
Meal deals	
A: Haddock, small chips and a soft drink	£3.50
B: Cod, large chips and a soft drink	£5.50

Denny thinks he can pay less than £13 in total for their lunches.

Is Denny correct?
Show why you think this.

(4)



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



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(Total for Question 3 is 4 marks)



SECTION B: Holiday to Trinidad

Answer all questions in this section.

Write your answers in the spaces provided.

4 Bella is going on holiday to Trinidad.

She knows the total cost of the holiday will be £2500
Her pay is £1431 each month.

Bella says

If I save 23% of my pay for 9 months
I will save at least £2500

Is Bella correct?

You must show how you have checked your answer.

(4)

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



Large empty box for showing the calculation.

Write your check in the box below.

Large empty box for writing the check.

(Total for Question 4 is 4 marks)

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- 5 Bella sees the perfume she likes in a shop in Trinidad.

Perfume One Ninety

list price TT\$ 1200

Special offer

$\frac{1}{5}$ off list price

Bella knows that she can buy the same perfume from a shop in the UK for £89.99

The exchange rate is £1 = TT\$ 9.30

Bella wants to pay the cheapest price for the perfume.

(a) Should Bella buy the perfume in Trinidad or the UK?

(4)

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



Bella stays in Arima with her aunt.
They want to go on a day trip.

Bella makes these notes about the day trip.

Start from Arima.

Travel time to Caroni nature reserve 30 mins

Visit Caroni nature reserve (2 - 3 hours)

Travel time to visit Riley $\frac{1}{4}$ hr

Visit Riley (1 - 2 hours)

Travel time to Maracas Bay 1 hr

Visit Maracas Bay (at least 4 hours)

Travel back to Arima $\frac{3}{4}$ hr

It is important that they get back to Arima by 6 pm.

Bella wants to leave as late as possible.

(b) What time should they leave Arima?

(3)



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



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(Total for Question 5 is 7 marks)



P 4 3 6 5 4 A 0 1 1 2 0

6 Bella makes a fruit punch drink for a party.

Papaya Flier Fruit Punch Drink

First make 200 ml of juice from

$\frac{1}{2}$ lime

1 small apple

1 passion fruit

$\frac{1}{4}$ papaya

Then mix equal parts of juice and water and serve the punch drink.

Bella decides to serve 500 ml of punch drink to each person at the party.

She wants to make enough for 40 people.

Bella has 8 papayas.

Does Bella have enough papayas to serve the punch drink to 40 people?

(5)

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



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(Total for Question 6 is 5 marks)



P 4 3 6 5 4 A 0 1 3 2 0

SECTION C: Farming

Answer all questions in this section.

Write your answers in the spaces provided.

- 7 Gill wants to keep free range chickens and sell the eggs.
She has a rectangular plot of land 60 m by 90 m.

Gill wants to keep 1200 chickens.

She knows that she can keep a maximum of 2500 chickens per hectare.

Use 1 hectare = 10 000 m²

(a) Can Gill keep 1200 chickens on her plot of land?

(4)

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



Large empty rectangular box for showing calculations.

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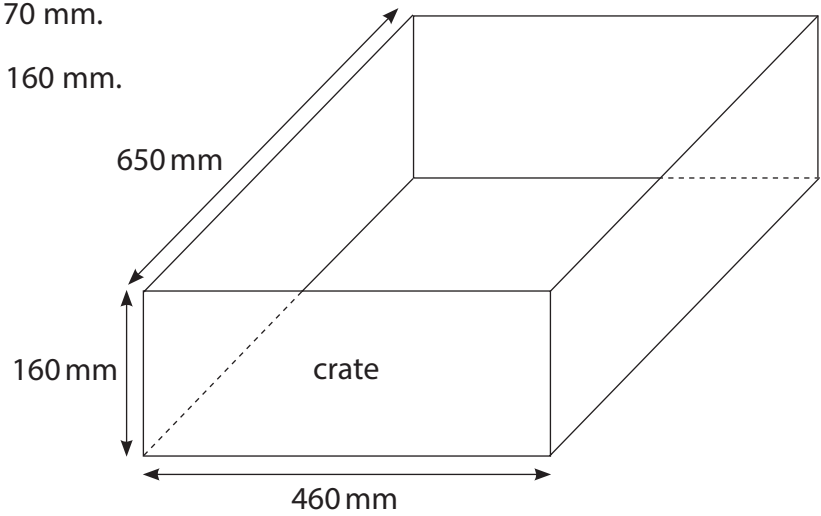
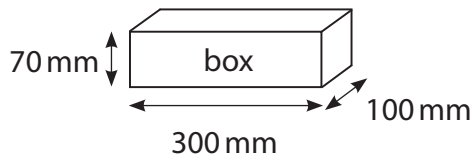
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Gill is going to pack the eggs in boxes.
She needs to stack the boxes in a crate.

Each box is 300 mm by 100 mm by 70 mm.

The crate is 650 mm by 460 mm by 160 mm.



Gill is going to stack the boxes in 2 layers.
She wants to put as many boxes as she can in the crate.

(b) How many boxes can Gill put in the crate?

(3)

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



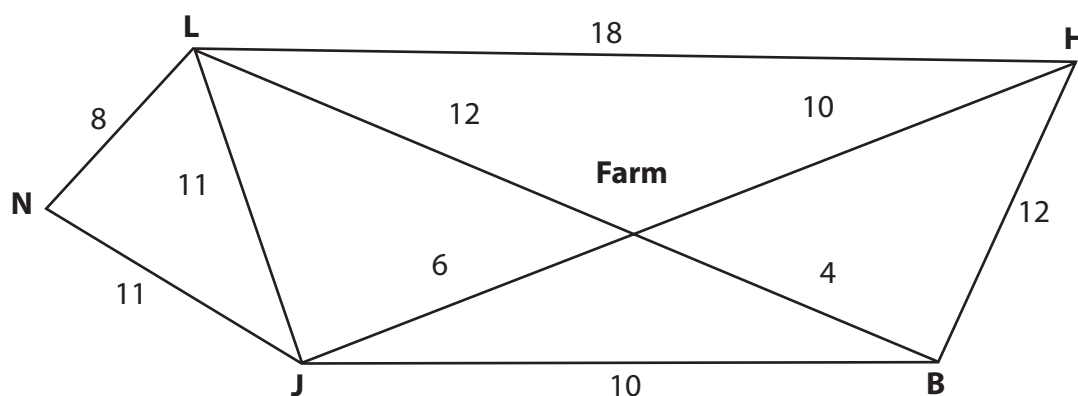
A large empty rectangular box for writing the answer.



Gill is going to deliver eggs in these five towns.

- Lowton (L)
- Hecton (H)
- Burtley (B)
- Juntley (J)
- Nenton (N)

The diagram shows the distances in miles between the farm and the five towns.



Gill wants a route from the farm to each town and then back to the farm.

She wants a route with a total distance less than 65 miles.

- (c) In which order should Gill visit the towns?
What is the total distance of the route?

(2)



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



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(Total for Question 7 is 9 marks)



P 4 3 6 5 4 A 0 1 7 2 0

- 8 Mr Atkins organises a school trip to a city farm.
He wants his class to calculate some averages.

Mr Atkins finds out the number of litres of milk a cow produced in the last 8 days.

8 9.5 16 17.5 18 17 15 9

He asks the class to find the mean and the median.

(a) Find the mean and the median.

Which average makes the milk production look greater?

(4)

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.



Mr Atkins wants his class to design a data collection sheet.

The sheet will be a record for 5 days.

It will show the number of litres of milk a cow produces each time it is milked.

The cows are milked twice a day.

There are 4 cows at the city farm.

(b) Design a data collection sheet.

(3)

Use the box below for your data collection sheet.



(Total for Question 8 is 7 marks)

TOTAL FOR PAPER IS 48 MARKS



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