

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



6–10 October 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: Dinner party

Answer all questions in this section.

Write your answers in the spaces provided.

1 Lisa plans a dinner party.

She can have the party on any day except Saturday or Sunday.

- Imran can come on Monday, Wednesday, or Thursday.
- Marty and Jo can't come on Wednesday or Saturday.
- Farida can't come on Monday or Friday.
- Ben and Clare can come on Wednesday or Sunday.
- Di and Phil can come on Tuesday or Thursday.
- The other guests can come on any day.

Lisa wants to choose the day when the largest number of people can attend.

Which day should Lisa choose?

Show why this is the best day for the dinner party.

(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 Lisa buys a frozen turkey for the dinner.
She finds these instructions to defrost the turkey.

Turkey weight	Approximate time to defrost Refrigerator	Approximate time to defrost Cold water
4 - 12 pounds	1 - 3 days	2 - 6 hours
12 - 16 pounds	3 - 4 days	6 - 8 hours
16 - 20 pounds	4 - 5 days	8 - 10 hours
20 - 24 pounds	5 - 6 days	10 - 12 hours

The turkey weighs 7 kg.
Lisa knows that 1 kg is 2.25 pounds.

She puts the turkey in the refrigerator to defrost.
Lisa thinks it will take 5 days to defrost.
Lisa is wrong.

(a) How long does the turkey need to defrost in the refrigerator? (3)

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



Lisa uses an old recipe to cook the turkey.
The recipe tells her to cook the turkey at 375°F .
Lisa's oven uses $^{\circ}\text{C}$.

She finds this formula to convert $^{\circ}\text{F}$ into $^{\circ}\text{C}$.

$$C = \frac{5(f - 32)}{9}$$

f is the temperature in $^{\circ}\text{F}$

C is the temperature in $^{\circ}\text{C}$

(b) What temperature should Lisa set on her oven?

(3)

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



Lisa wants to carve the 7 kg turkey at 8 pm.

Turkey cooking times

Allow 20 minutes per kg + 90 minutes.
Allow to stand for 20 minutes before carving.

(c) At what time should Lisa start cooking the turkey?

(3)

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



(Total for Question 2 is 9 marks)



3 Lisa wants to serve cheese and biscuits at the end of the dinner.

There are going to be 12 people at the dinner.

The local shop has these prices for cheese.

Cheddar cheese
£7.50 per kg

Stilton cheese
£1.16 per 100 g

Lisa wants to have 30 g of each cheese for each person.

How much does Lisa pay in total for the cheese? (4)

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



Large empty box for showing the calculation.



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(Total for Question 3 is 4 marks)



SECTION B: Extending the clubhouse

Answer all questions in this section.

Write your answers in the spaces provided.

- 4** Mike is the leader of a scout group.
The scout group wants to build a new room to extend the clubhouse.

The new room must

- share a wall with the clubhouse
- have a door 1 m wide in the shared wall
- be rectangular with a floor area of 12 m^2
- be at least 4 m from any tree.

Mike draws a plan of the clubhouse and the space available on a grid.

Make a scale drawing of the new room on the grid.
Show the door in the shared wall.
Remember to use the key.

(4)

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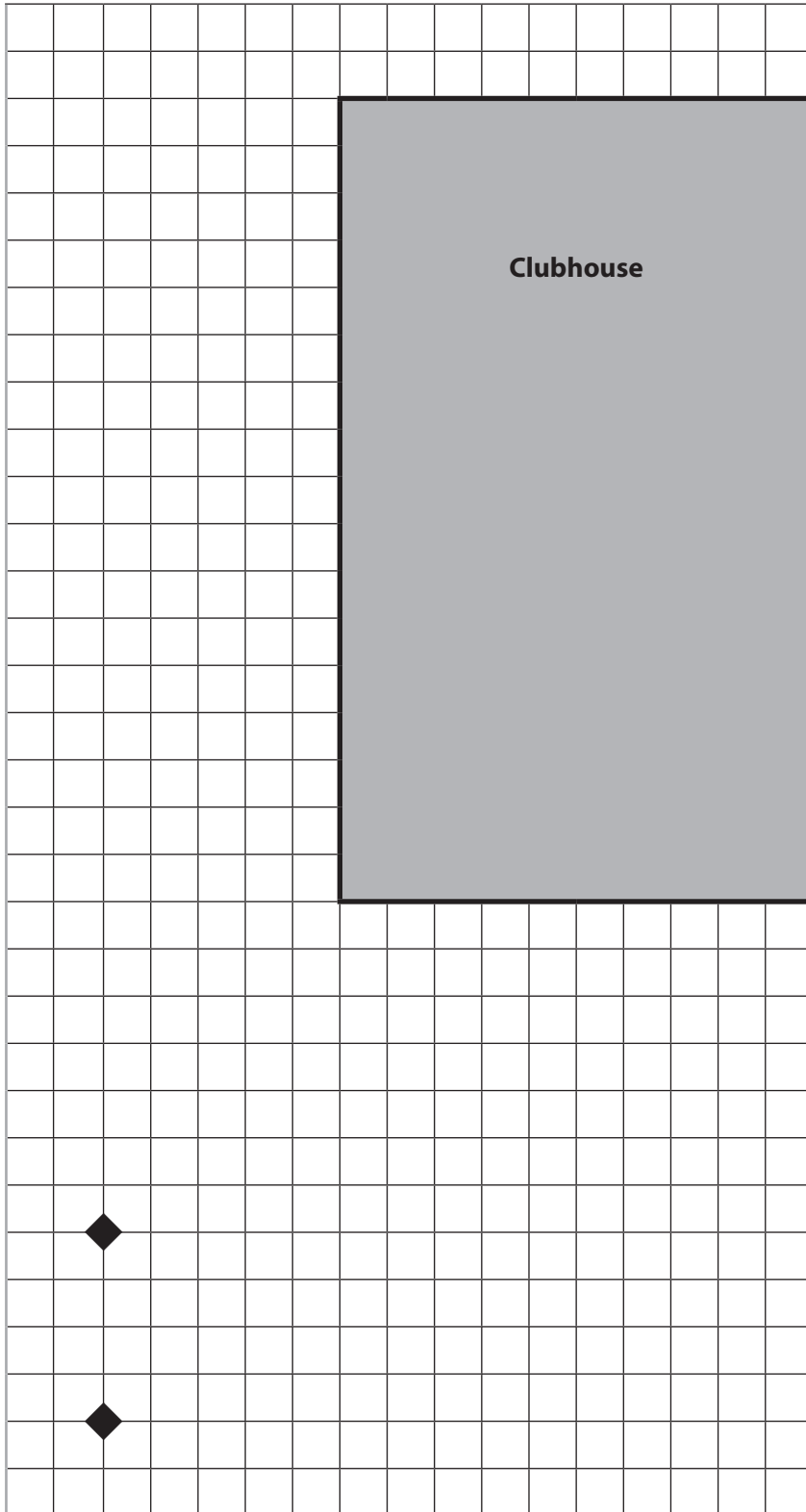
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Key: 1 square on the grid is 0.5 m by 0.5 m on the ground

◆ tree — wall

(Total for Question 4 is 4 marks)



5 Teams of scouts help to raise money for the new room.

Mike writes a newsletter.

The table shows the amount in pounds raised by the Fox team and the Hawk team.

Team	June	July	August	September
Fox	400	120	500	350
Hawk	200	220	450	520

Mike wants a display to compare the amounts raised by the Fox team with the amounts raised by the Hawk team.

He also wants to write and compare the total amounts raised in different months.

(a) Draw a graph or chart for Mike.

Write two statements to compare the data.

(5)

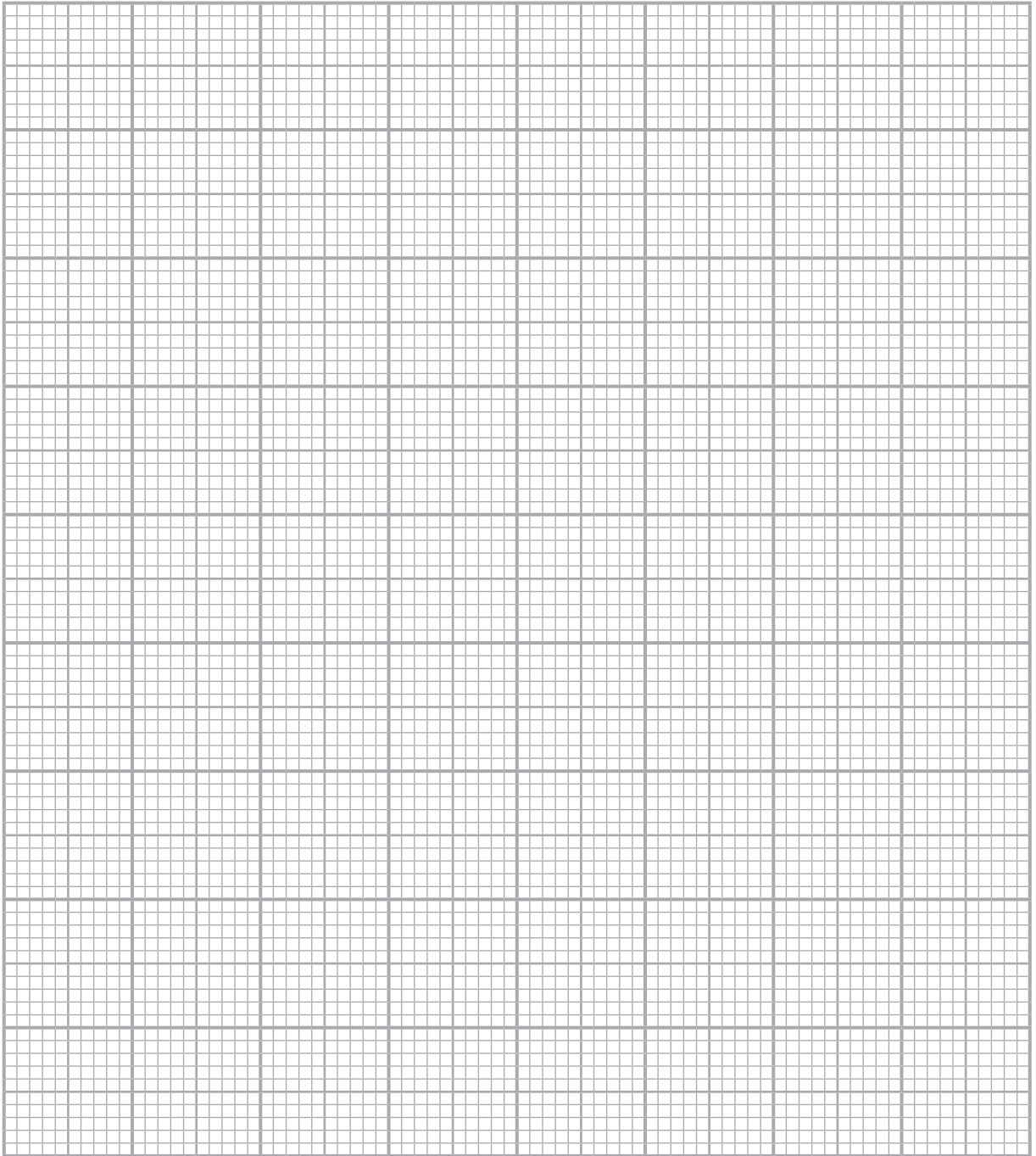
Write your statements in the box below.



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Mike sets the scout group a target to raise a mean average of £1000 per month.

The table shows the amount of money they raised in the last 4 months.

Month	June	July	August	September	October
Amount raised (£)	1200	450	1350	1400	

(b) How much do they need to raise in October to reach their target?

(3)

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



(Total for Question 5 is 8 marks)



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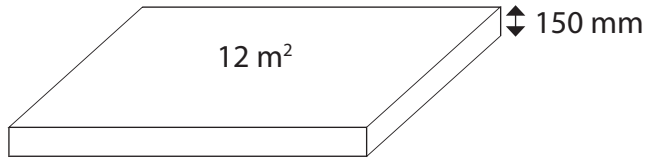
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6 Mike gets a builder to put down a layer of crushed stone for the base of the new room.

The area of the stone layer is 12 m^2 .
The depth is 150 mm .

volume = area \times depth



Mike finds out that 1 m^3 of crushed stone weighs 1.6 tonnes.
He orders 3 tonnes of stone.

Does Mike have enough stone for the base of the new room? (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.

(Total for Question 6 is 4 marks)



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SECTION C: Rock bands

Answer all questions in this section.

Write your answers in the spaces provided.

- 7 Wayne is in a band called Magic Time.
He needs to buy a new guitar.
He sees these two offers for the guitar he wants.

The Music Shop

Guitar
Usual price £1075

Today $\frac{1}{3}$ off

The Rock & Roll Store

Guitar
Deposit £100
and
12 months at £48.30

Wayne wants to pay as little as possible.

(a) Which shop should Wayne buy the guitar from?

(4)

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



Large empty box for showing the solution to the problem.

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Wayne has a crate to carry some of his equipment.

The crate is a cuboid 0.4 m deep.
The base is 1 m by 1.5 m.

Wayne is going to put soft material inside the crate to cover the base and sides.

He needs to sketch a net to help him cut the material all in one piece.

- (b) Draw a sketch of the net for Wayne.
Show all the measurements on your sketch.

(2)

Draw your sketch in the box below.



(Total for Question 7 is 6 marks)



8 Magic Time are going to play at a club on Saturday.
Yelena is the manager at the club.

Yelena sells 480 tickets at £15 each for Magic Time.

Magic Time take 70% of the money from the ticket sales.
The rest of the money goes to the club.

Yelena needs to make sure that the club gets £2000 to cover the costs.

(a) Does Yelena cover the costs?
Show a check of your working. (5)

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



Large empty rectangular box for showing working.



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



Yelena has some backstage passes for fans to meet Magic Time.
She is going to pick 6 tickets to win the backstage passes.

Yelena sold 480 tickets.
Each ticket has an equal chance of winning.

Chris has a ticket for Magic Time.

(b) What is the probability that Chris wins a backstage pass?

(2)

Write your answer in the box below.

(Total for Question 8 is 7 marks)

9 Yelena wants to ask some people at the club about bands they would like to see.

She wants to find out if they prefer

- to see The Ace or The Why
- Friday or Saturday.

She also wants to know how much they will pay for tickets.

- Less than £10
- £10 to £20
- Over £20

Yelena wants to put all the information on one sheet.

Design a data collection sheet for Yelena.

(3)



Use the box below for your data collection sheet.

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(Total for Question 9 is 3 marks)

TOTAL FOR PAPER IS 48 MARKS



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