

Write your name here

Surname

Other names

**Edexcel**  
**Functional Skills**

Centre Number

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Candidate Number

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# Mathematics

Level 1



23–27 July 2012

**Time: 1 hour 30 minutes**

Paper Reference

**FSM01/01**

**You must have:**

Pen, calculator, HB pencil, eraser, ruler graduated in cm and mm, protractor, compasses.

Total Marks

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**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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6/4



**PEARSON**

**SECTION A: The football tournament**

**Answer all questions in this section.**

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

- 1** Jane organises a football tournament.  
She is going to hire a football ground for the event.

People going to the football tournament can buy a ticket to sit or a ticket to stand.

Jane finds this information about the maximum number of tickets at some football grounds.

<b>Ground</b>	<b>Tickets to sit</b>	<b>Tickets to stand</b>
Bredbury Park	550	2000
Victoria Road	350	2150
Crown Ground	530	3200
Star Meadow	4450	4300

Jane plans for 3600 people to buy tickets.

- (a) Choose a football ground for Jane.  
Explain your answer.

(2)

Write your answer in the box below.



Jane writes down the costs of running the tournament.

Item	Details	Cost
Hire of football ground	6 hours at £75 per hour	
24 medals	68p each	
Ground staff and officials	£1200	£1200
Refreshments for teams and officials	£95	£95
	<b>Total</b>	

(b) Find the total cost of running the tournament. (3)

You may use the box below for your working.



Jane needs to order programmes from the printer.

The printer sells the programmes in boxes.  
Each box contains 500 programmes.

Jane plans for  $\frac{1}{3}$  of the 3600 people to buy a programme.

(c) How many boxes of programmes should Jane order?

(3)

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



A large, empty rectangular box with rounded corners, intended for the student to show their working out for the problem.

**(Total for Question 1 is 8 marks)**



2 Jane needs drinks for the players and referees.

**Orange**  
Mix  
1 litre of orange  
and  
5 litres of water

Jane has 12 litres of orange.

She thinks she will need 70 litres of drink.

Does Jane have enough orange to make 70 litres of drink?

(3)

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



(Total for Question 2 is 3 marks)



**3** The teams in the football tournament are

Astley, Bristown, Chawley and Davton.

Each team will play each of the other teams once.

- The first game starts at 10:00 am.
- Each game takes 35 minutes.
- There is a break of 15 minutes after each game.
- Only one game is played at a time.

Jane needs a timetable for the tournament.

The timetable must show

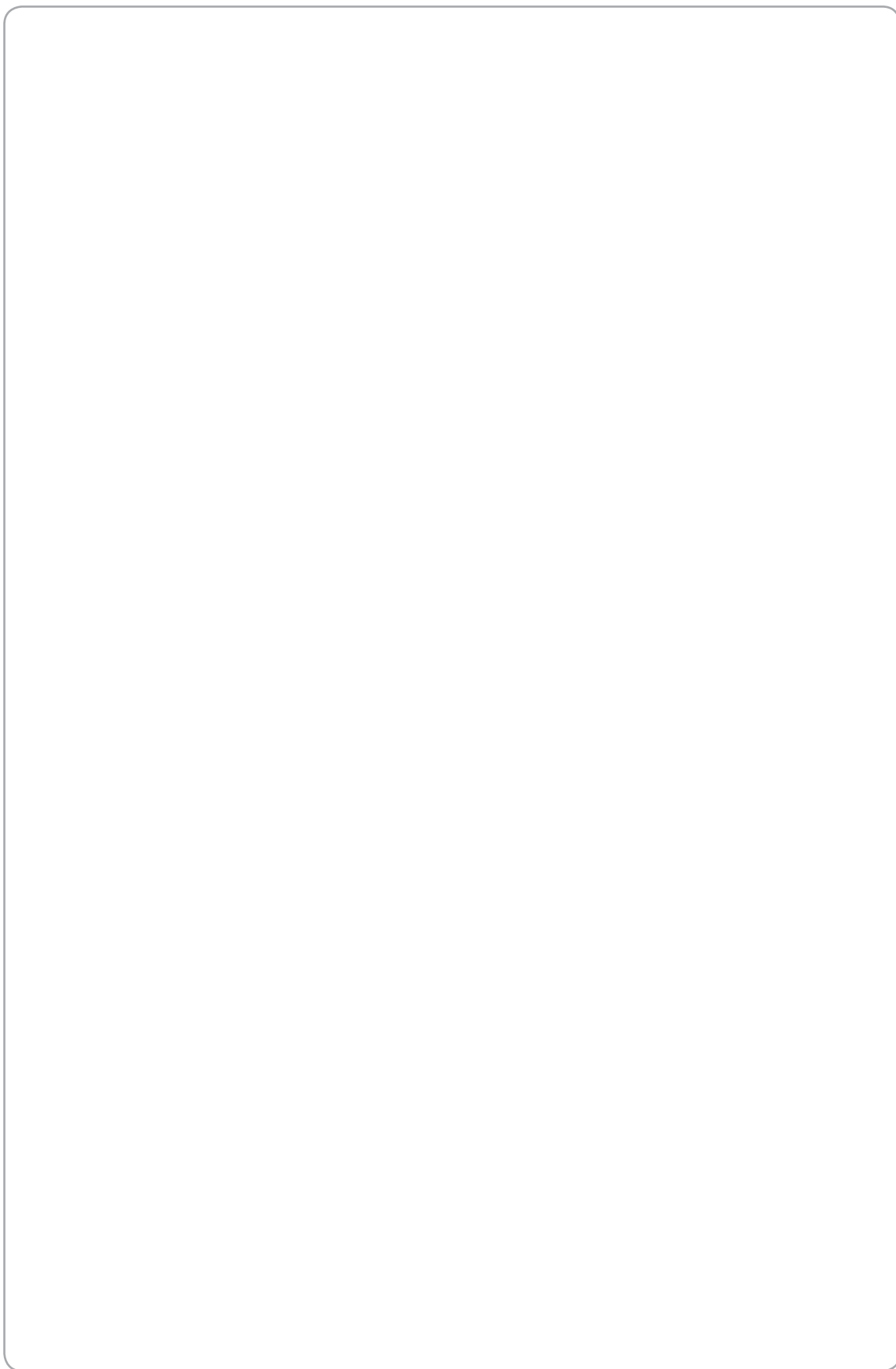
- the start time for each game
- the teams playing in each game.

Make a timetable for Jane.  
Check your timetable.

(5)



Show your timetable in the box below.



**(Total for Question 3 is 5 marks)**



## SECTION B: Solar power

Answer all questions in this section.

Write your answers in the spaces provided.

- 4 Amir works for a local newspaper.  
He is writing an article about solar power.

Amir finds some information about solar power systems in his local area.  
The table shows the average daily amount of electricity produced.

Month	March	April	May	June	July	August
Electricity produced (kWh)	9	12	15	13	15	12

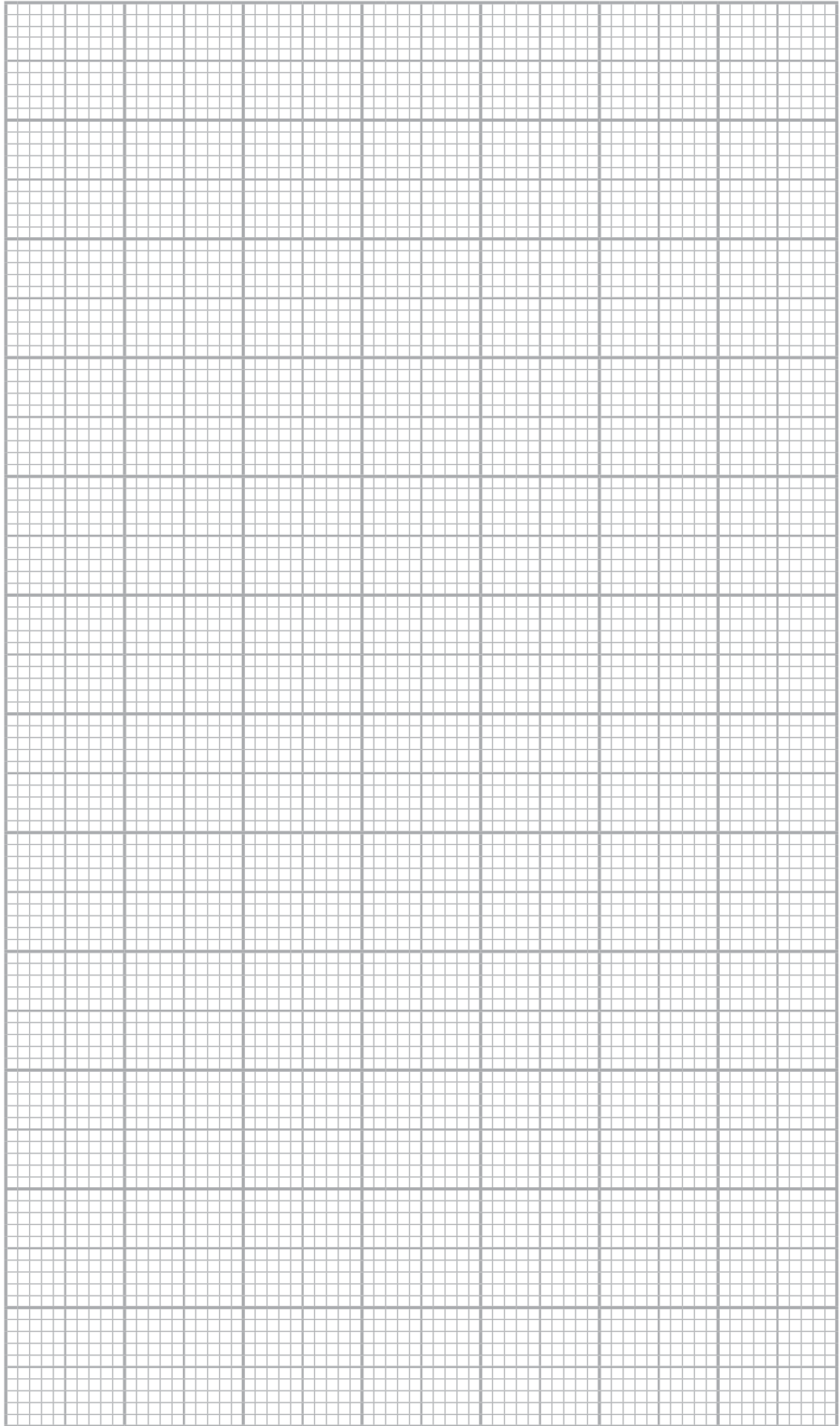
He wants to show this information on a graph or chart.

Draw a graph or chart for Amir.

(3)







**(Total for Question 4 is 3 marks)**



5 Solpower makes solar panels.


Each solar panel is made from 24 **square** cells put together in the shape of a **rectangle**.

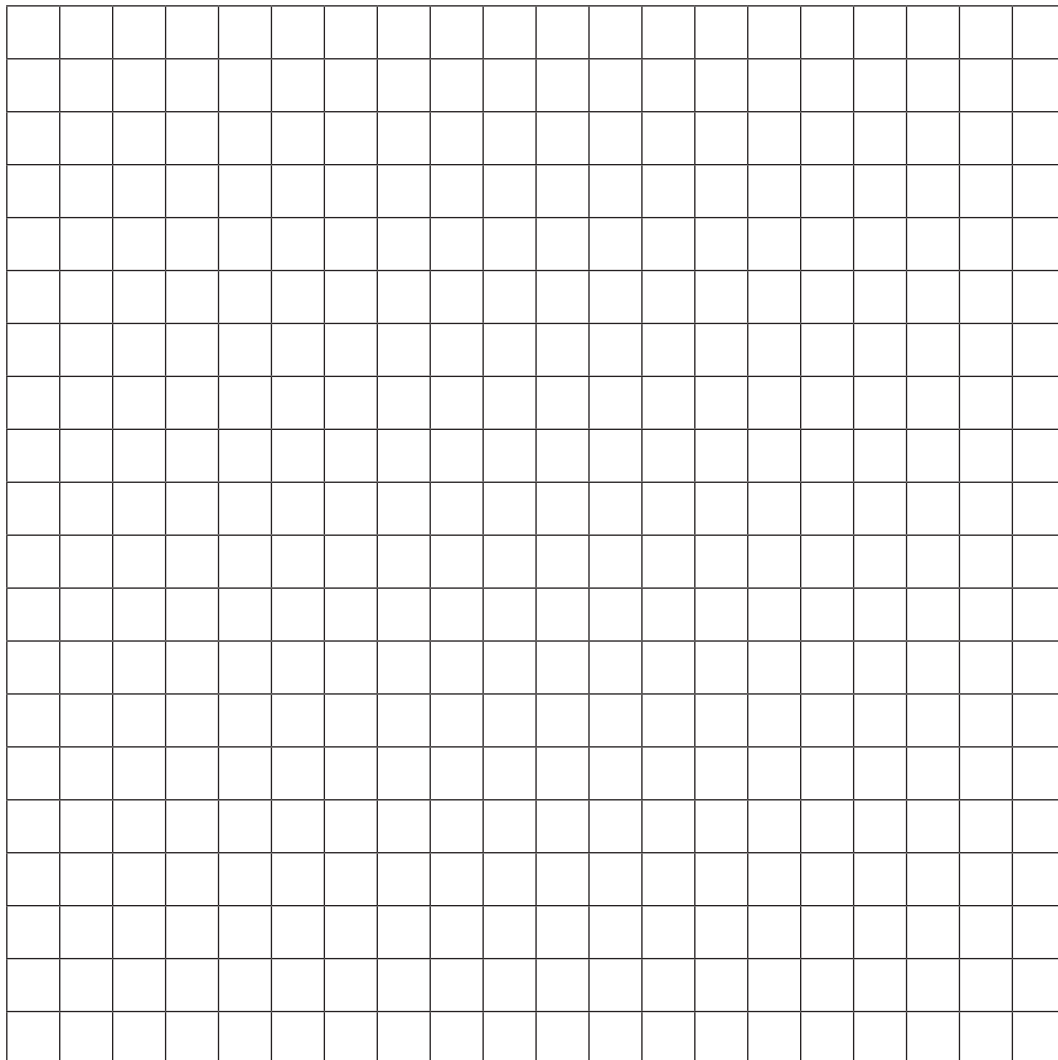
Julie designs solar panels.

She needs to show 24 square cells in the shape of a rectangle.

(a) Draw a solar panel for Julie.

(2)

Key  = one cell



Julie needs to know the length of this solar panel in metres.

Each cell in the solar panel is 156 mm by 156 mm.

(b) Work out the length of the solar panel you have drawn in part (a).  
Give your answer in metres.

(3)

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



Solpower solar panels work at temperatures between  $-30^{\circ}\text{C}$  and  $55^{\circ}\text{C}$ .

The highest temperature recorded in England is  $38.5^{\circ}\text{C}$ .

The lowest temperature recorded in England is  $-26.1^{\circ}\text{C}$ .

(c) Are these solar panels suitable for England?  
Explain why you think this.

(2)

Give your answer and explain it in the box below.



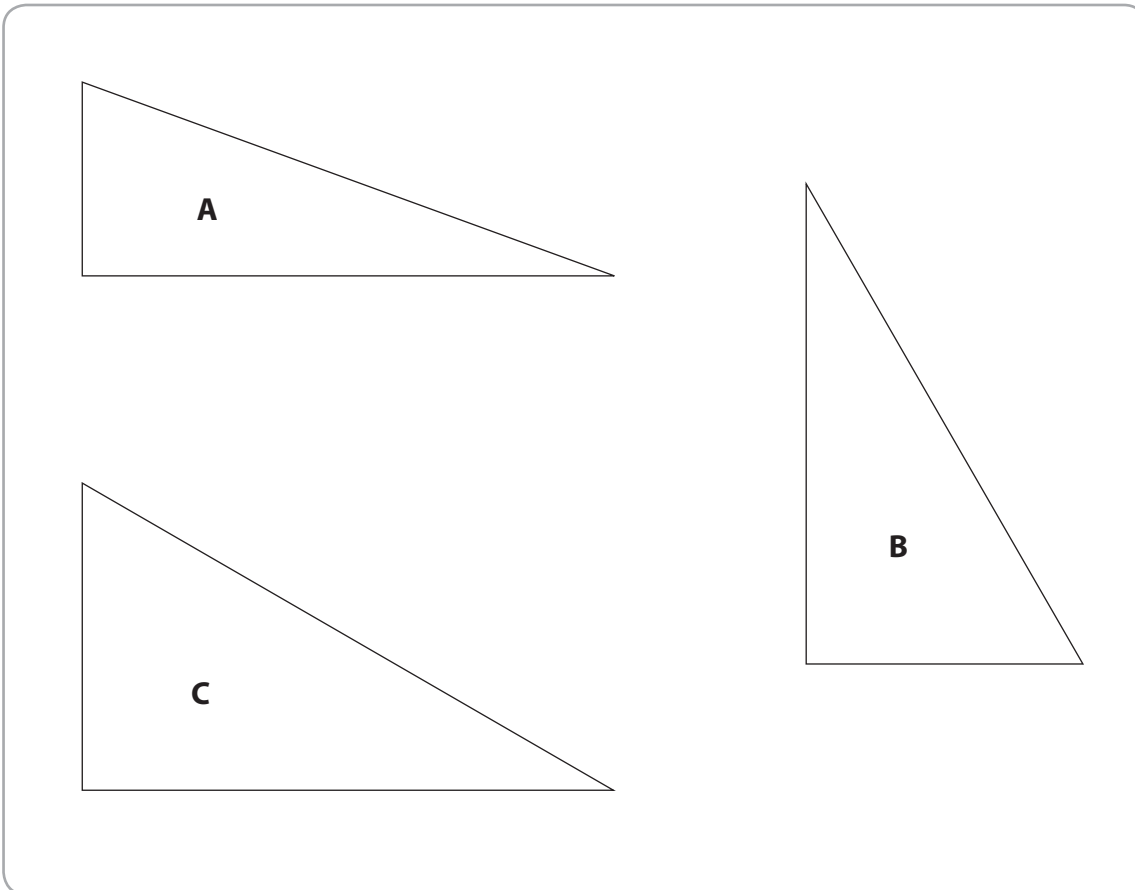
Solar panels work best on a roof that is at an angle of  $30^\circ$  to the horizontal.

The scale drawings show the sides of three roofs on a building.

(d) Which of these roofs is best for solar panels?  
Show why you think this.

(2)

Show your answer in the box below.



(Total for Question 5 is 9 marks)

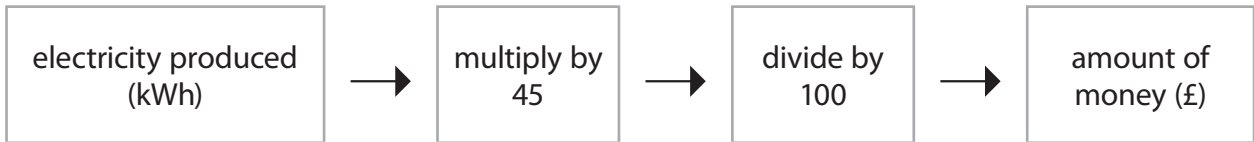


6 The owner of a solar power system gets money for the electricity produced.

Dan bought a solar power system last year.

The salesman told Dan he would get £2000 for the electricity produced.

Here is the rule to work out the amount of money.



Last year, the electricity produced by Dan's system was 3320 kWh.

Did Dan get £2000 for the electricity produced last year?

(4)

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



(Total for Question 6 is 4 marks)



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

### SECTION C: Planning a wedding

Answer all questions in this section.

Write your answers in the spaces provided.

7 Sam and Ali are planning their wedding.

They order their cake from The Wedding Cake Company.  
Their wedding cakes have

- three tiers
- all tiers of the same shape
- all tiers of different sizes.

The table shows

- the shapes of the tiers
- the sizes of the tiers
- the number of people who can be served from each tier.



	Size of tier			
	6"	8"	10"	12"
Round	12	24	38	60
Square	16	30	48	70

Sam and Ali know that they need enough cake for 120 people.

- (a) Choose the tiers for the wedding cake for Sam and Ali.  
Show how you have checked your answer.

(3)

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



The table below shows the prices of the tiers at The Wedding Cake Company.

	Size of tier			
	6"	8"	10"	12"
Round	£24.50	£32.25	£40.50	£50.75
Square	£32.50	£40.25	£50.25	£67.75

(b) What is the total cost of the tiers you chose in part (a)?

(2)

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



**(Total for Question 7 is 5 marks)**



**8** At the wedding there will be a meal for 120 people.  
Sam and Ali find prices from three hotels.

Hotel Dene - £14 per person and includes 7 different dishes.

The Grove - £16 per person and includes 10 different dishes.

Meadow Hotel - £18 per person and includes 12 different dishes.

Sam and Ali want to have as many different dishes as possible.  
Their budget for the meal is £2000

Which hotel should they choose?

**(3)**

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 8 is 3 marks)**





- 9 Ali hires a photographer to take pictures at the wedding.  
The photographer charges £580 for a digital album.  
He has a special offer giving a 20% discount.

(a) How much money does Ali save with the discount?

(2)

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



(b) How much does Ali pay the photographer?

(1)

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

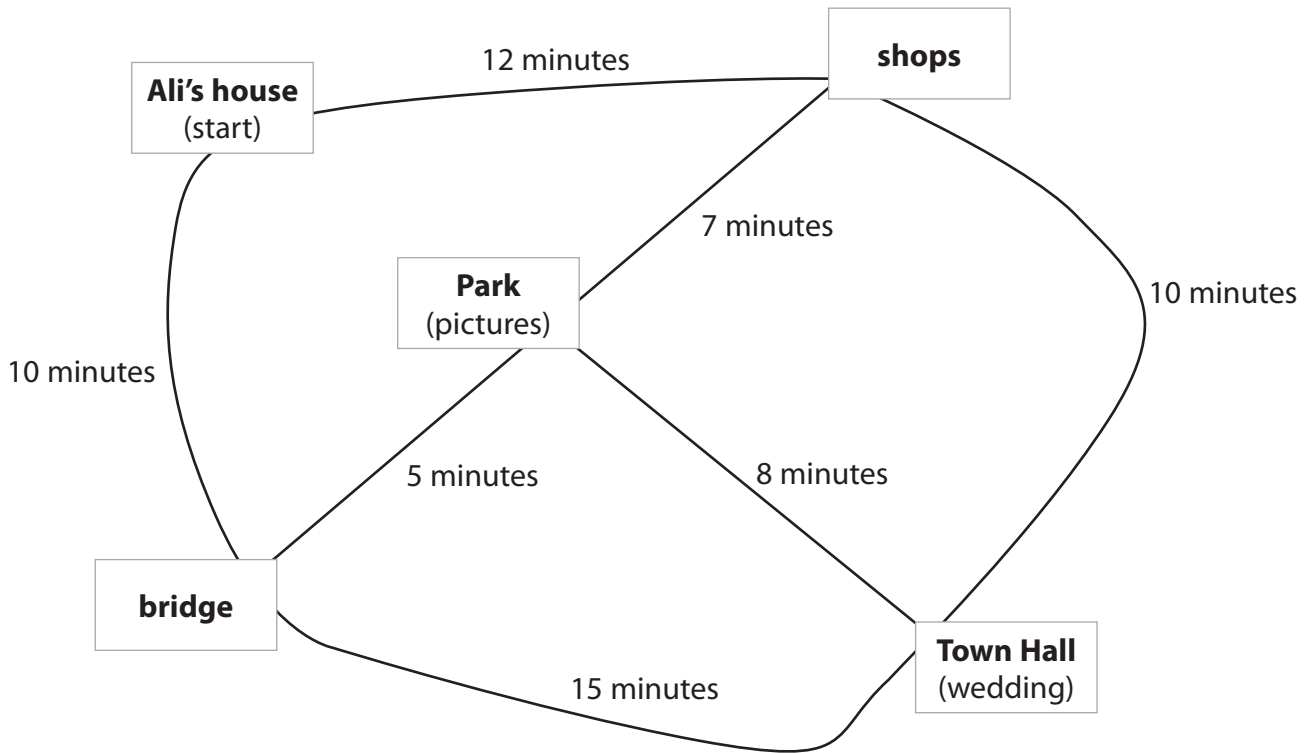


**(Total for Question 9 is 3 marks)**



10 Ali wants the photographer to take pictures in the park on the way to the wedding.

The diagram shows Ali's house, the Town Hall, the park, the bridge and the shops. It also shows the usual time to travel between places. The times are all given in minutes.



The wedding is going to be in the Town Hall.

The wedding will start at 11:30 am.

The photographs in the park will take 30 minutes.

Ali needs to know when to leave the house.

What is the latest time Ali must leave the house to get to the wedding?

(5)



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



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**(Total for Question 10 is 5 marks)**

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**TOTAL FOR PAPER IS 48 MARKS**



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