

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 1



16 – 20 July 2018

**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

**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 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: Ironing service**

**Answer all questions in this section.**

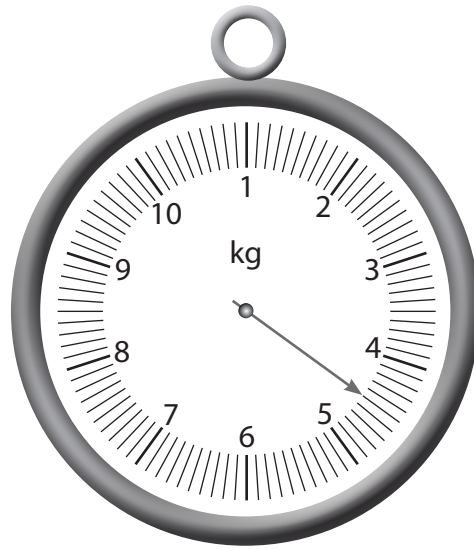
**Write your answers in the spaces provided.**

1 Gordon runs an ironing service.

Customers put clothes in a bag.

Gordon weighs the bag of clothes to work out how much to charge.

The scales show the weight of a bag of clothes.



(a) What weight do the scales show?

(1)

Write your answer in the box below.

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Gordon offers a 20% discount to new customers.

The charge for some ironing for a new customer is £16 before the discount.

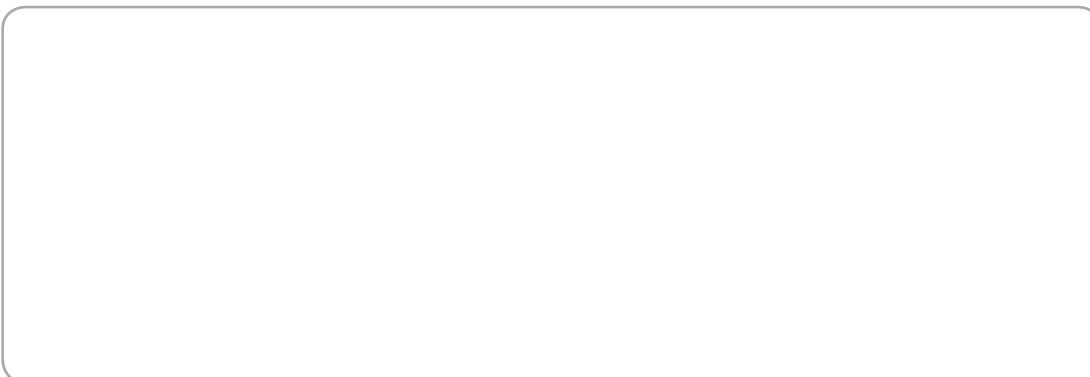
(b) What is 20% of £16?  
Show a check of your working.

(3)

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



Use the box below to show your check.



Gordon needs to work out the ironing bill for Miss Hazel.  
Miss Hazel is not a new customer.

Gordon charges

- £12 for clothes weighing up to a total of  $2\frac{1}{2}$  kg
- and £4.50 for every 1 kg over  $2\frac{1}{2}$  kg.

The ticket shows the total weight of the clothes.

Ironing Service		3318
Name	Miss Hazel	
Address	61 Osborne Road, Roditch	
Collection date	3 <sup>rd</sup> July	
Weight	$5\frac{1}{2}$ kg	
Return date	8 <sup>th</sup> July	

Gordon works out that the bill is £25

(c) Is Gordon correct?  
Show why you think this.

(4)

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

(Total for Question 1 is 8 marks)

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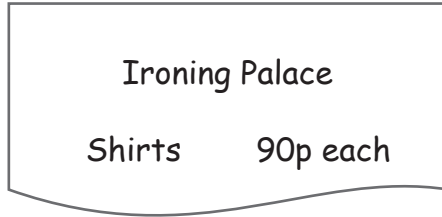


2 Gordon irons some shirts for staff at a hotel.

The total weight of these shirts is 9.5 kg.  
Each shirt weighs 190 g.

Gordon charges £38 to iron these shirts.

He sees this advert for ironing in a newspaper.



Gordon thinks he charges less to iron these shirts than the Ironing Palace would charge.

Is Gordon correct?  
Show why you think this.

(4)

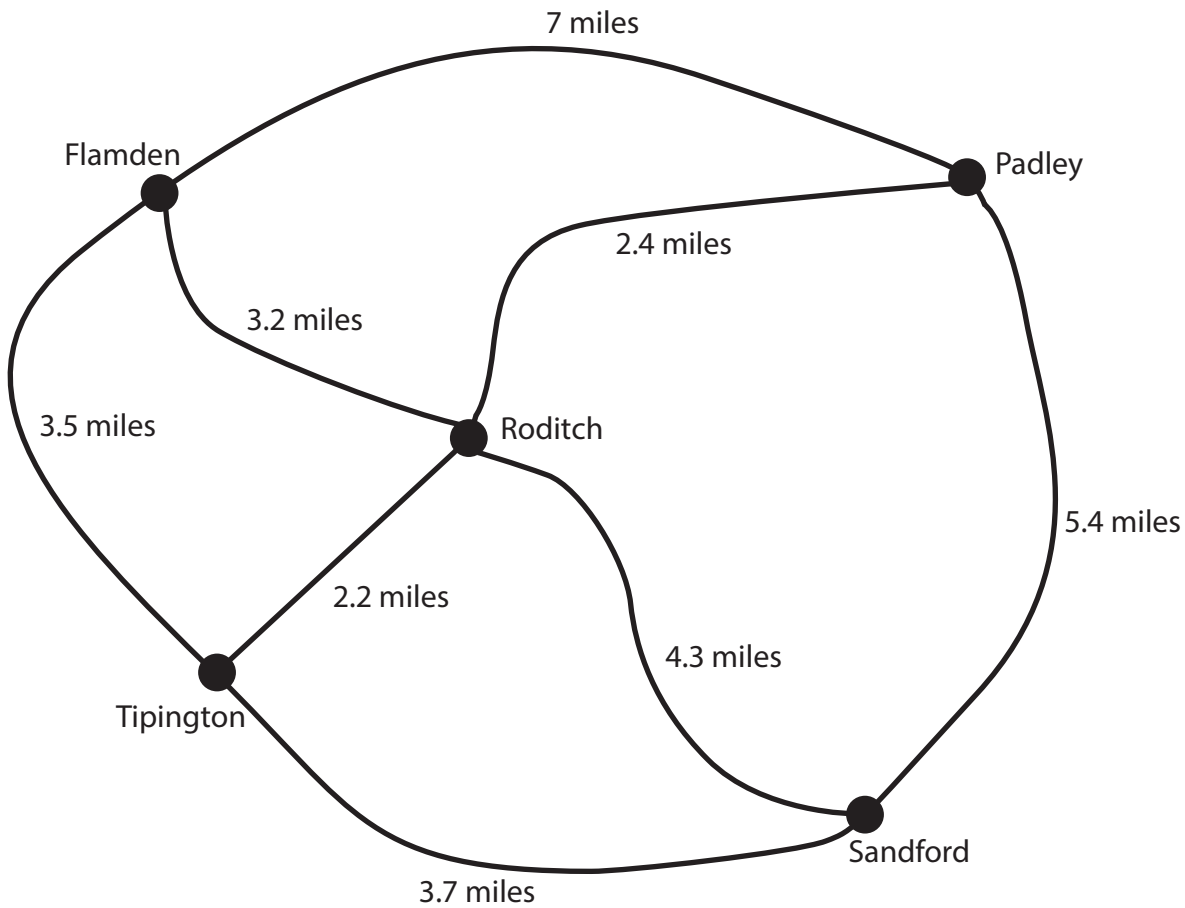
Use the box below to show clearly how you get your answer.

Empty box for showing the answer.

(Total for Question 2 is 4 marks)



- 3 Gordon collects and returns ironing from customers. He uses this sketch to help plan his route.



Gordon needs to

- drive 9.6 miles in Roditch to collect ironing from customers
- collect ironing from the hotel in Padley
- deliver ironing to a restaurant in Tipington
- go to Flamden to buy supplies.

Gordon will start and finish at home in Roditch. He wants to find the shortest route.

Plan a route for Gordon.  
Show the total distance of this route.

(4)

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



(Total for Question 3 is 4 marks)

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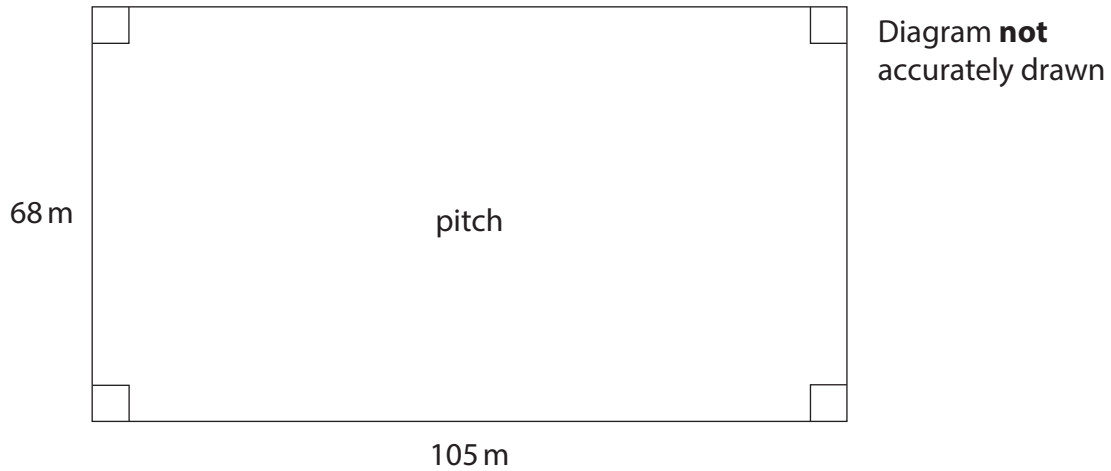
**SECTION B: Football training**

**Answer all questions in this section.**

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

- 4 Mikael plays football.  
He is preparing for fitness tests.

The first test is to run 1600 m as quickly as possible.



Mikael runs along the perimeter of this pitch 4 times.

(a) Does Mikael run a total distance of 1600 m?

(3)

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

Empty box for showing the solution to the problem.

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Mikael does a sprint and turn test to measure his fitness level.

He does this 5 times.

Here are his results in seconds.

25.1    24.3    26.8    27.6    29.2

Mikael must have a mean time less than 27 seconds to pass the test.

(b) Does Mikael pass the test?  
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.



Mikael wants to draw a graph to show the times for these 5 tests.

test	A	B	C	D	E
time (seconds)	25.1	24.3	26.8	27.6	29.2

Mikael starts to draw a graph to show this information.

(c) Complete the graph for Mikael.

(3)

Use the graph paper and the scale on the opposite page.

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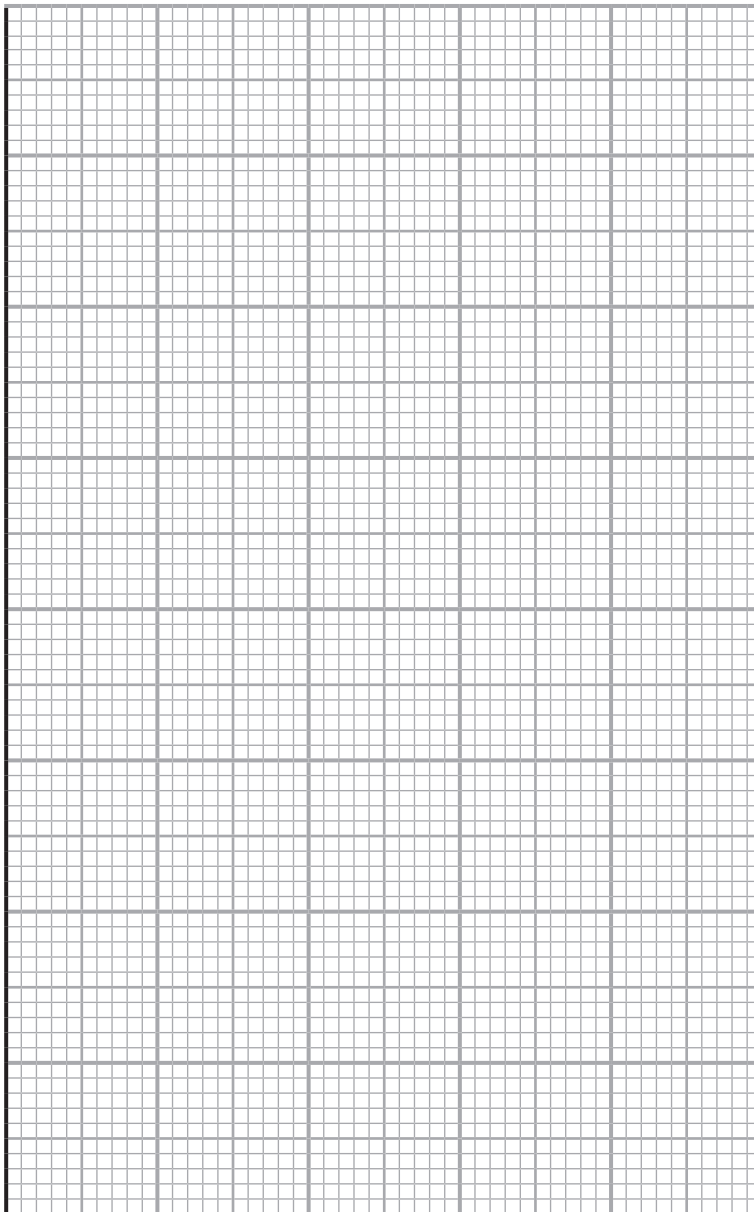
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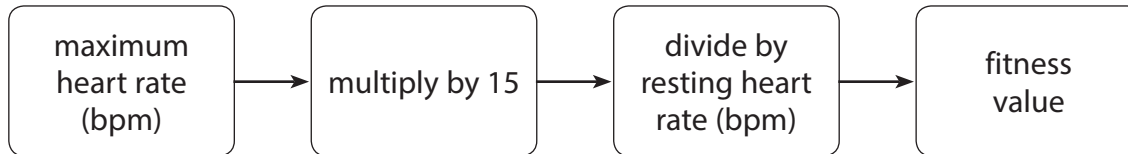
(Total for Question 4 is 10 marks)



P 5 8 6 6 4 A 0 1 1 2 0

5 Mikael wants to know how fit he is.  
He measures his heart rate in beats per minute (bpm).

Mikael uses this rule to work out his fitness value.



Mikael has a

- maximum heart rate of 192 bpm
- resting heart rate of 50 bpm.

A footballer should have a fitness value greater than 54

Does Mikael have a fitness value greater than 54?

(3)

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

(Total for Question 5 is 3 marks)



6 The first football match of the season is on Saturday.  
The match will start at 5:30 pm.

The match has a playing time of  $1\frac{1}{2}$  hours.

There is also a 15 minute break.

After the match Mikael will

- do cool-down exercises (10 minutes)
- have a shower and change (20 minutes)
- drive home (25 minutes).

Mikael wants to get home by 8 pm.

Will Mikael get home by 8 pm?

(3)

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

(Total for Question 6 is 3 marks)



**SECTION C: Treetop adventure park**

**Answer all questions in this section.**

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

- 7 Kurt works at a treetop adventure park.  
He needs to cover the roofs of 8 treehouses with paint once.  
Each treehouse roof is in the shape of a rectangle 4 m by 3 m.

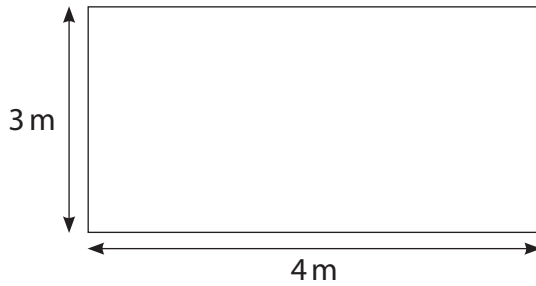
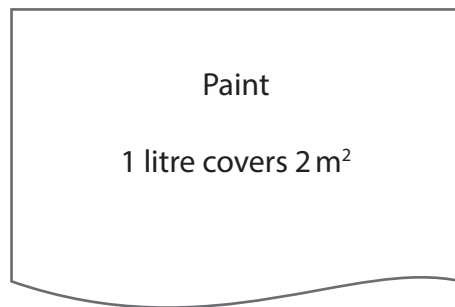


Diagram **not** accurately drawn

Kurt has 9 tins of paint.  
Each tin of paint contains 5 litres.

Kurt reads this label



Has Kurt got enough paint?

(5)

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



(Total for Question 7 is 5 marks)

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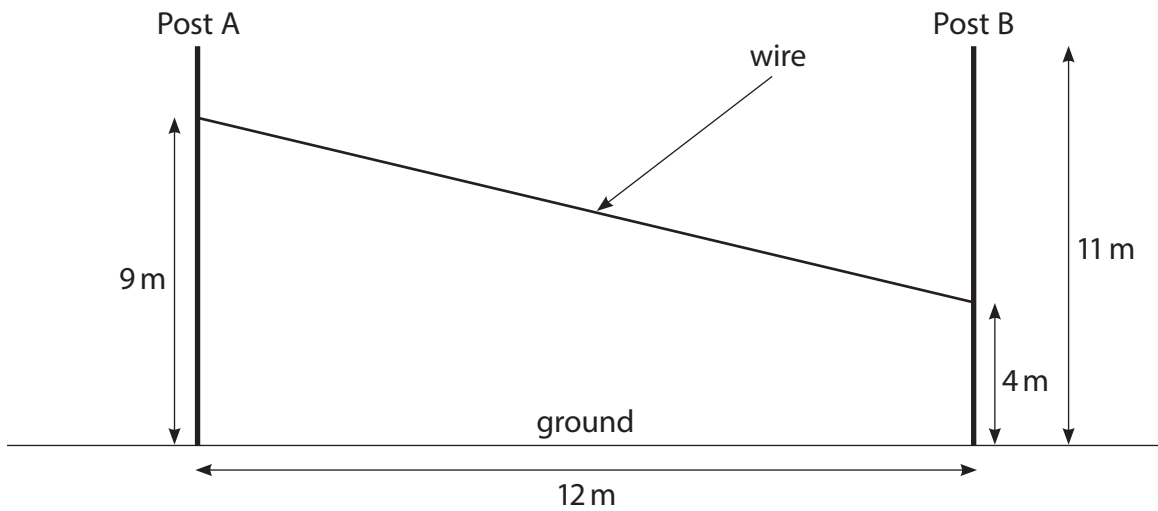
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- 8 Kurt is going to build a zip wire ride in the park.  
He will attach wire to 2 vertical posts.

Kurt draws a sketch of the new ride.



Each post is 11 m high.  
Kurt will attach the wire to

- post A 9 m above the ground
- post B 4 m above the ground.

The distance between post A and post B is 12 m.

Kurt wants to draw a scale diagram of the new ride.

- (a) Draw a scale diagram of the new ride.  
Remember to use the key.

(3)

Use the grid on the next page to draw your diagram.

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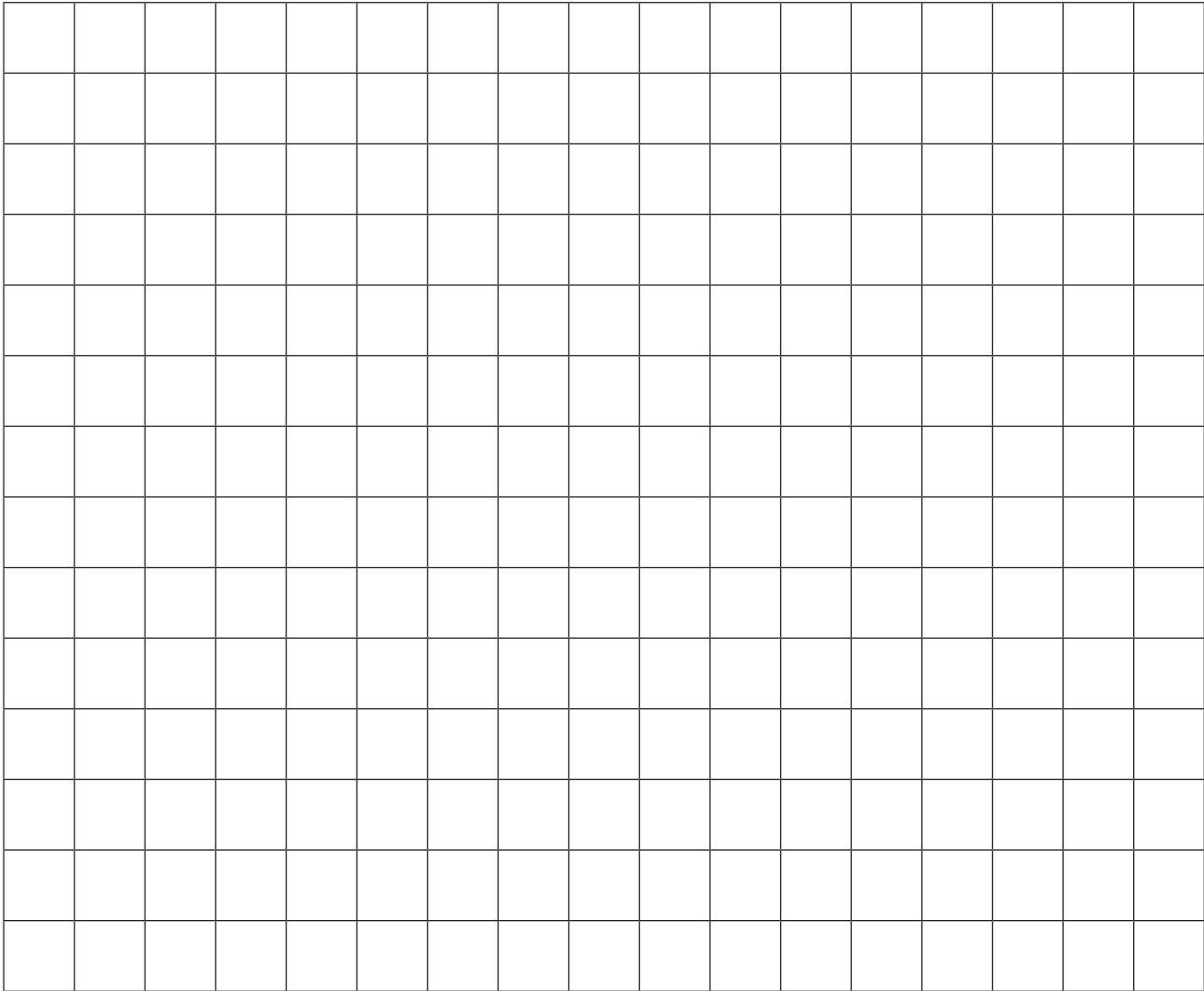
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**Key** 1 cm on the grid is 1 m in the park



Kurt uses the diagram to help work out the total amount of wire needed.  
He needs an extra 6 m of wire to be able to attach it to both posts securely.

Kurt thinks 20 m of wire will be enough to go between the two posts and attach it securely.

(b) Is 20 m of wire enough?

Remember to measure your diagram and use the key.

(2)

Write your answer in the box below.

**(Total for Question 8 is 5 marks)**



- 9 Jane works at the park.  
Visitors have been voting for their favourite place in the park.  
Jane has started to record the votes on a tally chart.

place	tally	total
treetop trail		
segway forest trek		
hall of nets		

Jane needs to record the votes for another nine visitors.

There are

- 4 votes for the treetop trail
- 3 votes for the segway forest trek
- 2 votes for the hall of nets.

- (a) Complete the tally chart.  
Remember to work out the totals.

(2)

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The normal price for a ticket to the park is £12  
There is a discount for groups.

A group of 10 people will save  $\frac{1}{5}$  of the normal price.

Jane thinks a group of 10 people will save £25 in total.

(b) Will a group of 10 people save £25 in total?  
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.



(Total for Question 9 is 6 marks)

**TOTAL FOR PAPER IS 48 MARKS**





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