

Mathematics Exam

Evidence Pack 1



1 Here are some prices in a cafe.

Prices	
Tea	£1.60
Coffee	£2.25
Milk	95p
Toast	£1.85
Bacon sandwich	£3.30
Egg sandwich	£2.95

Jack orders

2 teas
1 coffee
1 toast
1 bacon sandwich

Jack only has a £10 note.

Does he have enough money to pay the bill?
You must show how you get your answer.

(Total for Question is 3 marks)

2 Jake and Sarah each played a computer game six times.

Their scores for each game are shown below.

Jake	10	9	8	11	12	8
Sarah	2	10	7	14	4	10

(a) Who had the most consistent scores, Jake or Sarah?
 You must give a reason for your answer.

.....

.....

(1)

Jake played a different game 20 times.

The stem and leaf diagram shows information about his scores.

0	9
1	2 3 3 4 5
2	5 6 6 6 6 7
3	1 3 4 6 8
4	0 2 9

Key
 1 | 2 represents 12 points

Jake said his modal score was 6 points because 6 occurs most often in the diagram.



(b) Is Jake correct?
 You must explain your answer.

.....

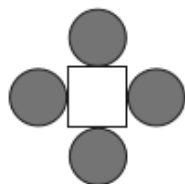
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(1)

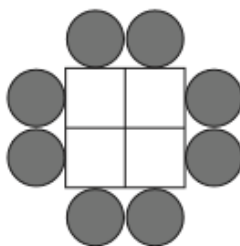
(Total for Question is 2 marks)

3 A sequence of patterns is made from circular tiles  and square tiles 

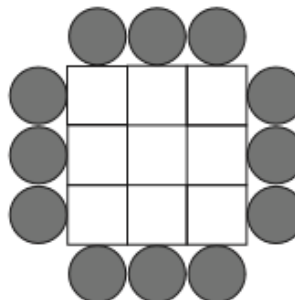
Here are the first three patterns in the sequence.



pattern number 1



pattern number 2



pattern number 3

(a) How many square tiles are needed to make pattern number 6?

.....
(2)

(b) How many circular tiles are needed to make pattern number 20?

.....
(2)

Derek says,

“When the pattern number is odd, an odd number of square tiles is needed to make the pattern.”

(c) Is Derek right?

You must give reasons for your answer.

.....
.....
(2)

(Total for Question is 6 marks)

- 4** Write down three different multiples of 4 that add up to 40.

.....
(Total for Question is 2 marks)

- 5** There are only 7 blue pens, 4 green pens and 6 red pens in a box.

One pen is taken at random from the box.

Write down the probability that this pen is blue.

.....
(Total for Question is 2 marks)

6. Denise wants to give a pen set to every student in her school.
There are 799 students in the school.

Denise already has 102 pen sets.
She will need to buy more pen sets.
Each pen set costs 89 pence.

- (a) Work out an estimate for the total cost of the pen sets Denise needs to buy.

.....
(3)

- (b) Is your answer to (a) an underestimate or an overestimate?
Give a reason for your answer.

.....
.....
(1)

(Total for Question is 4 marks)

7 Helen has 80 books to sell.

Each book is Fiction or Non-fiction.

The ratio of the number of Fiction books to the number of Non-fiction books is 3 : 1

Each book has a normal price of £10.

Helen reduces the price of all the Non-fiction books.

<p>Non-fiction</p> <p>All books ½ price</p>
--

Helen sells all 80 books.

Work out the total amount of money Helen will receive.

£.....

(Total for Question is 4 marks)

8. In a year group there are 100 boys and 120 girls.

Write as a ratio the number of boys to the number of girls.

Give your answer in its simplest form.

.....

(Total for Question is 2 marks)

9 A cafe sells cakes and scones.

On Tuesday, the ratio of the number of cakes sold to the number of scones sold was 5 : 2

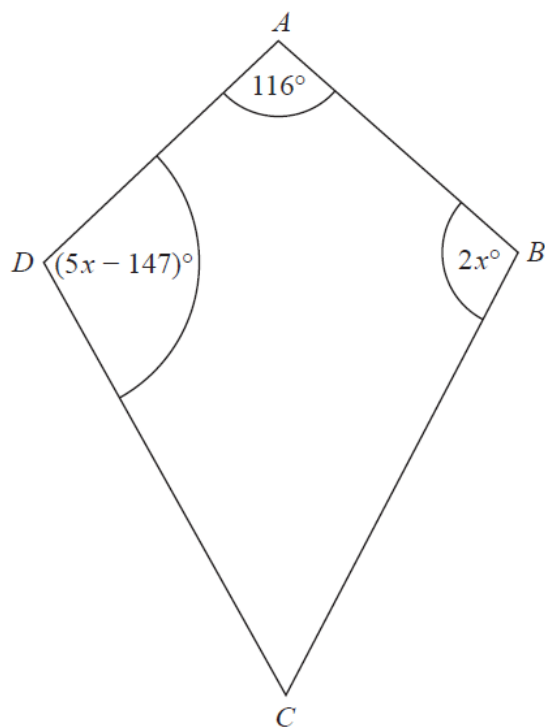
On Tuesday, the cafe sold 80 scones.

How many cakes were sold on Tuesday?

.....

(Total for Question is 2 marks)

10 $ABCD$ is a kite with $AD = AB$

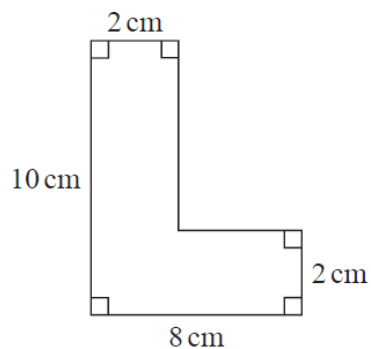


Find the size of the smallest angle of the kite.

.....°

(Total for Question is 4 marks)

11

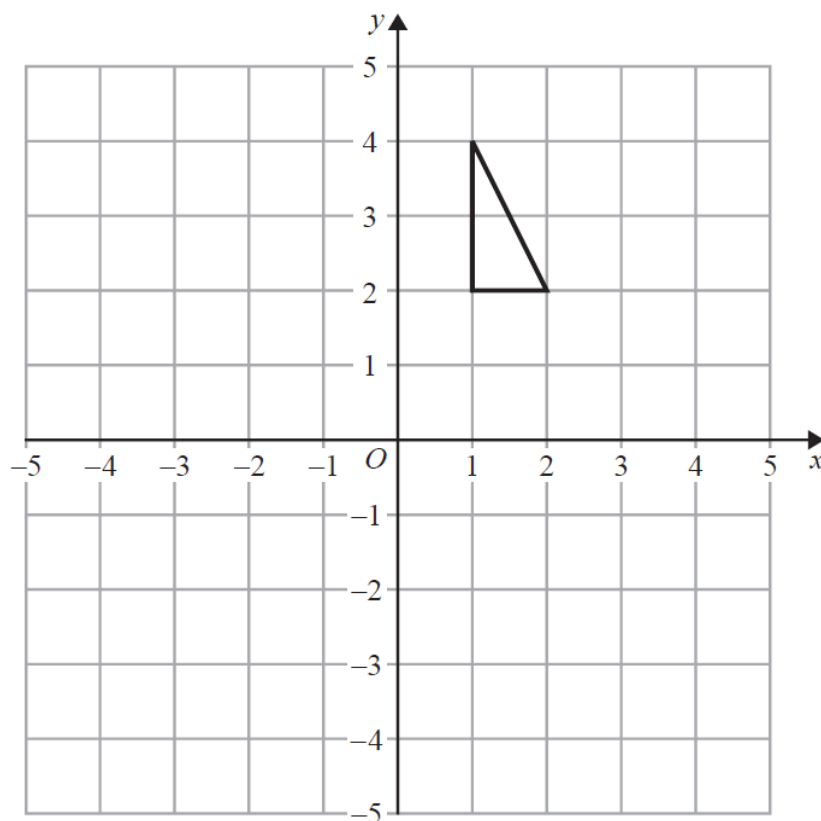


Work out the area of the shape.

..... cm²

(Total for Question is 2 marks)

12



On the grid, rotate the triangle 90° clockwise about (0, 0).

(Total for Question is 2 marks)

13 Here is a list of ingredients for making 16 flapjacks.

Ingredients for 16 flapjacks

120 g butter
140 g brown sugar
250 g oats
2 tablespoons syrup

Jenny wants to make 24 flapjacks.

Work out how much of each of the ingredients she needs.

butter g

brown sugar g

oats g

syrup tablespoons

(Total for Question is 3 marks)