

Write your name here

Surname

Other Names

# Mathematics

**June 2017 Paper 3 (Calculator Allowed)**

**Part 2 (Second half of the paper)**

**Edexcel Foundation Tier**

Time: 45 minutes

Q	Topic	Max Mark	My Marks
14	Exchange Rates	6	
15	Venn Diagrams	6	
16	Simultaneous Equations	3	
17	Averages from Frequency Tables, Probability	2	
18	Fraction, Percentage of Amount, Sharing Ratio	5	
19	Angles in Polygons	4	
20	Compound Measures, Density	4	
21	Similar Shapes	2	
22	Drawing Reciprocal Graphs	4	
23	Error intervals, Reverse Percentages	4	
	Total	40	

For worked solutions and video solutions visit [mathsgenie.co.uk](http://mathsgenie.co.uk)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

14 Andy went on holiday to Canada.  
His flights cost a total of £1500

Andy stayed for 14 nights.  
His hotel room cost \$196 per night.

Andy used wifi for 12 days.  
Wifi cost \$5 per day.

The exchange rate was \$1.90 to £1

(a) Work out the total cost of the flights, the hotel room and wifi.  
Give your answer in pounds.

£ .....  
(5)

(b) If there were fewer dollars to £1, what effect would this have on the total cost, in pounds, of Andy's holiday?

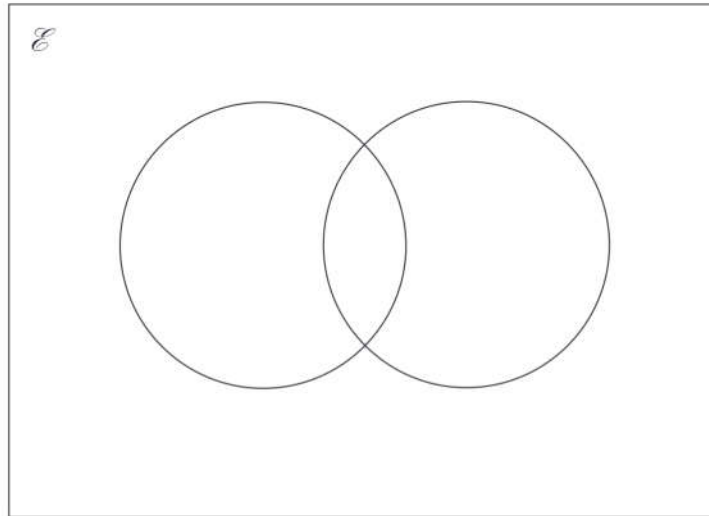
.....  
(1)

**(Total for Question 14 is 6 marks)**



- 15  $\mathcal{E} = \{\text{odd numbers less than } 30\}$   
 $A = \{3, 9, 15, 21, 27\}$   
 $B = \{5, 15, 25\}$

(a) Complete the Venn diagram to represent this information.



(4)

A number is chosen at random from the universal set,  $\mathcal{E}$ .

(b) What is the probability that the number is in the set  $A \cup B$ ?

(2)

(Total for Question 15 is 6 marks)



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

16 Solve the simultaneous equations

$$\begin{aligned} 3x + y &= -4 \\ 3x - 4y &= 6 \end{aligned}$$

$x =$  .....

$y =$  .....

(Total for Question 16 is 3 marks)



17 The table shows some information about the dress sizes of 25 women.

Dress size	Number of women
8	2
10	9
12	8
14	6

(a) Find the median dress size.

.....  
(1)

3 of the 25 women have a shoe size of 7

Zoe says that if you choose at random one of the 25 women, the probability that she has either a shoe size of 7 or a dress size of 14 is  $\frac{9}{25}$  because

$$\frac{3}{25} + \frac{6}{25} = \frac{9}{25}$$

(b) Is Zoe correct?

You must give a reason for your answer.

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

**(Total for Question 17 is 2 marks)**



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

**18** Daniel bakes 420 cakes.

He bakes only vanilla cakes, banana cakes, lemon cakes and chocolate cakes.

$\frac{2}{7}$  of the cakes are vanilla cakes.

35% of the cakes are banana cakes.

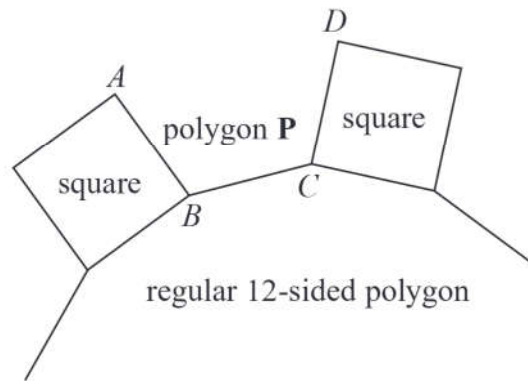
The ratio of the number of lemon cakes to the number of chocolate cakes is 4:5

Work out the number of lemon cakes Daniel bakes.

.....  
**(Total for Question 18 is 5 marks)**



19 In the diagram,  $AB$ ,  $BC$  and  $CD$  are three sides of a regular polygon  $P$ .



Show that polygon  $P$  is a hexagon.  
You must show your working.

(Total for Question 19 is 4 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

20 The density of apple juice is 1.05 grams per  $\text{cm}^3$ .

The density of fruit syrup is 1.4 grams per  $\text{cm}^3$ .

The density of carbonated water is 0.99 grams per  $\text{cm}^3$ .

25  $\text{cm}^3$  of apple juice are mixed with 15  $\text{cm}^3$  of fruit syrup and 280  $\text{cm}^3$  of carbonated water to make a drink with a volume of 320  $\text{cm}^3$ .

Work out the density of the drink.  
Give your answer correct to 2 decimal places.

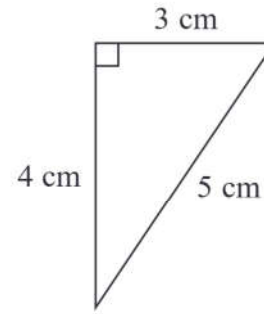
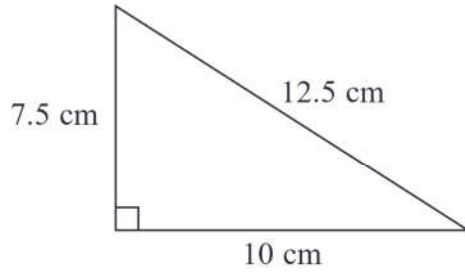
.....g/ $\text{cm}^3$

**(Total for Question 20 is 4 marks)**





21



Show that these two triangles are mathematically similar.

(Total for Question 21 is 2 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

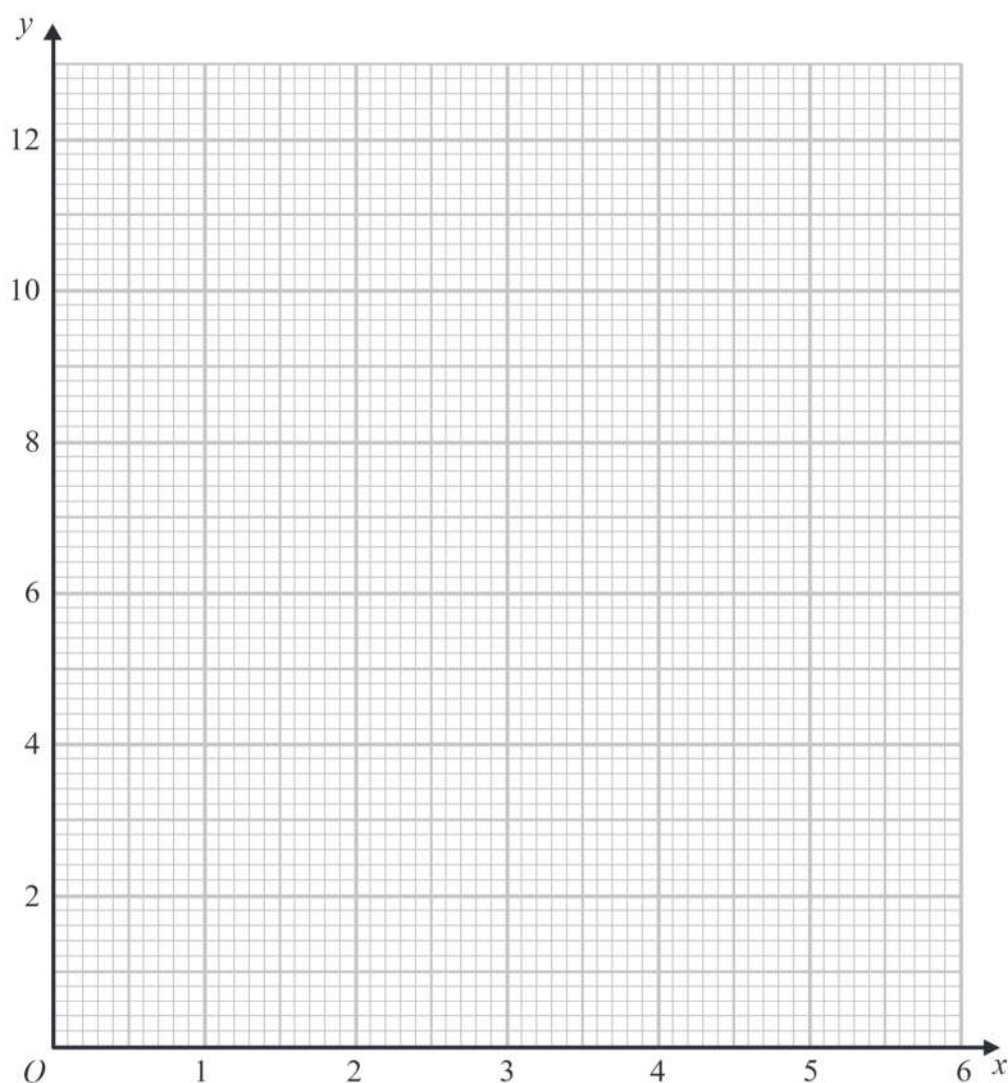
DO NOT WRITE IN THIS AREA

22 (a) Complete the table of values for  $y = \frac{6}{x}$

$x$	0.5	1	1.5	2	3	4	5	6
$y$		6		3		1.5		

(2)

(b) On the grid below, draw the graph of  $y = \frac{6}{x}$  for values of  $x$  from 0.5 to 6



(2)

(Total for Question 22 is 4 marks)



23 Harley's house has a value of £160 000 correct to 2 significant figures.

(a) (i) Write down the least possible value of the house.

£ .....  
(1)

(ii) Write down the greatest possible value of the house.

£ .....  
(1)

The value of Rita's house increased by 5%.  
Her house then had a value of £210 000

(b) Work out the value of Rita's house before the increase.

£ .....  
(2)

(Total for Question 23 is 4 marks)

TOTAL FOR PAPER IS 80 MARKS

