



ENTRANCE AND SCHOLARSHIP EXAMINATION  
2017

MATHEMATICS

1 HOUR – CALCULATORS NOT ALLOWED

CANDIDATE NAME .....

Instructions to Candidates:

1. Write your name on the line above.
2. Attempt to answer **all** questions in the spaces provided in this book.
3. Work steadily through the paper.
4. Show all stages in any calculation.
5. If you cannot answer a question, leave it and attempt the next one. Return at the end to those you have left out.
6. The total mark for this paper is 100.

**Q1.**

(a) Work out  $56 + 84$

.....  
(2)

(b) Work out  $5.95 - 2.83$

.....  
(2)

(c) Work out  $6.8 \times 5$

.....  
(2)

(d) Work out  $224 \div 8$

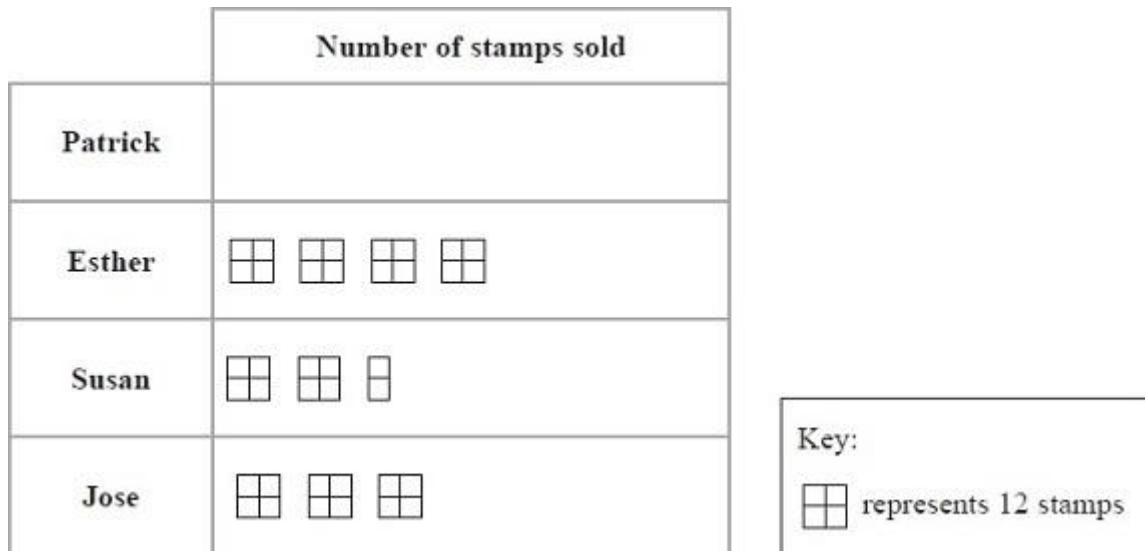
.....  
(2)

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

**Q2.**

Patrick, Esther, Susan and Jose sell stamps in a supermarket.

The incomplete pictogram shows the number of stamps Esther, Susan and Jose each sold last Tuesday.



Patrick sold 24 stamps on Tuesday.

(a) Complete the pictogram.

(1)

(b) Work out the number of stamps Esther sold.

.....  
(1)

Jose sold more stamps than Susan.

(c) How many more?

.....  
(2)

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

**Q3.**

Jason did a survey to find out which flavour of sweet people like the best.

Here are his results.

lemon	lime	lime	orange	blackberry
orange	blackberry	lime	lime	lemon
blackberry	lime	orange	lime	lime
lime	blackberry	lemon	blackberry	lime

(a) Write down the total number of the people in the survey.

.....  
(1)

(b) How many people like orange flavour sweet the best?

.....  
(1)

(c) Find which flavour of sweet is recorded the most.

.....  
(1)

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

**Q4.**

(a) Change 1.8 metres into centimetres.

..... centimetres  
(1)

(b) Change 3500 grams into kilograms.

..... kilograms  
(1)

(c) Change 480 seconds into minutes.

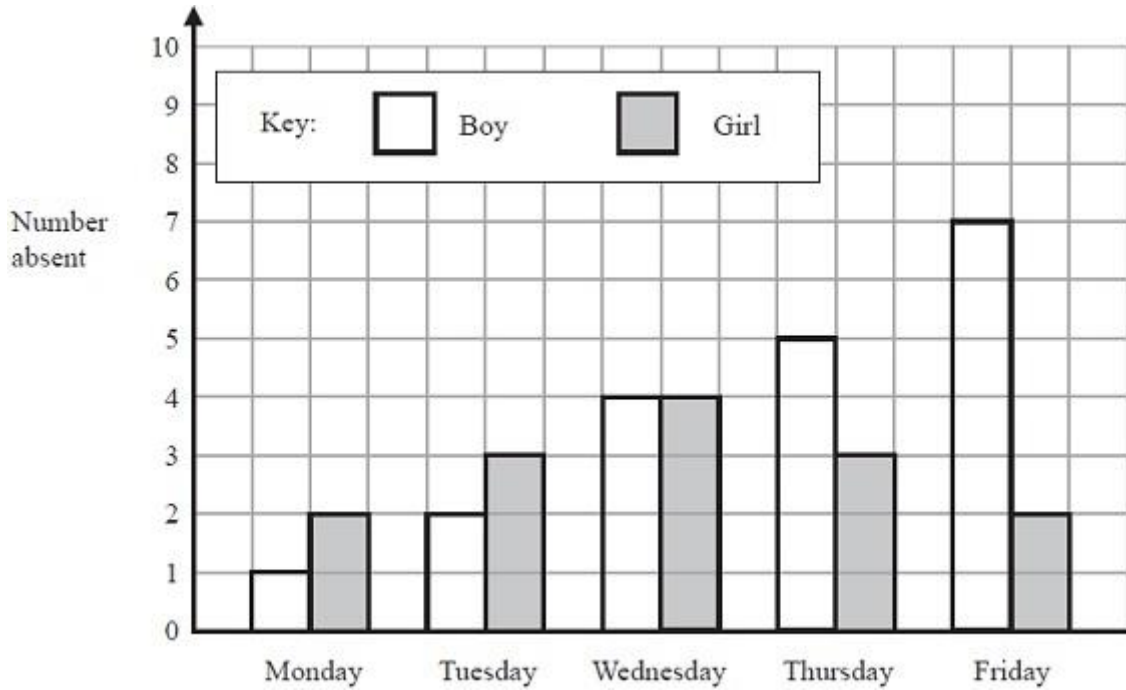
..... minutes  
(1)

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

**Q5.**

Mr Singh recorded the number of students absent each day last week.

The dual bar chart gives information about his results.



There were more boys absent than girls on Friday.

(a) How many more?

.....  
(1)

(b) Work out the total number of recorded absences for girls last week.

.....  
(2)

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

**Q6.**

(a) Work out  $2.4 \times 37$

.....  
(3)

(b) Work out  $37.94 \div 7$

.....  
(2)

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

**Q7.**

(a) Work out  $\frac{3}{4}$  of 60

.....  
(2)

(b) Work out 40% of 80

.....  
(2)

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

**Q8.**

Sybil goes shopping and buys

- 2 magazines at £2.95 each
- 1 packet of sweets for 95p
- 3 bottles of water at 85p each

How much change should she get from £20?

.....

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

**Q9.**

Use 5 miles = 8 km to change 60 km into miles.

..... miles

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

**Q10.**

Here is some information about some students.

Student	Age	Gender	Lunch	Travels to school by
Ann	14	female	school lunch	walking
Ben	16	male	packed lunch	bus
Carla	15	female	school lunch	bike
Dave	16	male	school lunch	walking
Eric	15	male	packed lunch	bike

(a) How old is Ann?

.....  
(1)

(b) How many students are male?

.....  
(1)

(c) Which students have a packed lunch?

.....  
(1)

(d) Which student travels to school by bike and has a school lunch?

.....  
(1)

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



**Q11.**

Here is a list of numbers

6 8 11 12 15 19 24 36 48

From the numbers in the list,

(a) write down a prime number,

.....  
(1)

(b) write down a factor of 24,

.....  
(1)

(c) write down a multiple of 12

.....  
(1)

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

**Q12.**

(a) Work out  $25 \times 100$

.....  
(1)

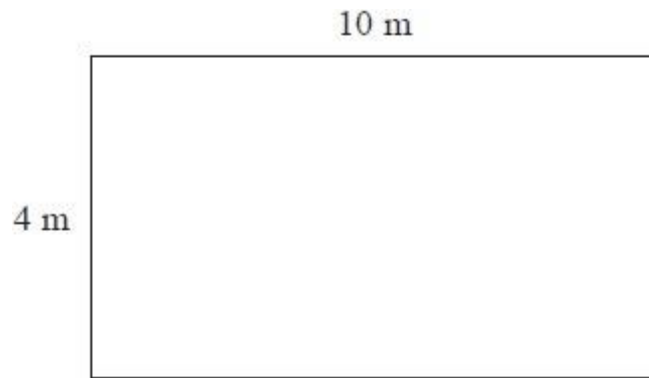
(b) Write the number 678 to the nearest ten.

.....  
(1)

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

**Q13.**

Here is a rectangle.



Work out the perimeter of the rectangle.

..... m

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

**Q14.**

Here is a number line.



(a) Work out  $3 - 4$

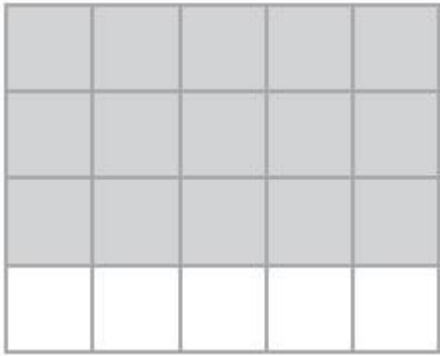
.....  
(1)

(b) Work out  $-5 + 8$

.....  
(1)

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

**Q15.**



(a) What fraction of this shape is shaded?

.....  
(1)

(b) Write  $\frac{3}{9}$  in its simplest form.

.....  
(1)

(c) Write 50% as a fraction.

.....  
(1)

(d) Write  $\frac{3}{4}$  as a decimal.

.....  
(1)

(e) Write an equivalent fraction for  $\frac{2}{3}$

.....  
(1)

(f) Write 0.4 as a fraction

.....  
(1)

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

**Q16.**

(a) Write these numbers in order of size.  
Start with the smallest number.

1      -3      -5      2      -4      3

.....  
(1)

(b) Work out  $43.65 + 3.7 + 209 - 28.87$

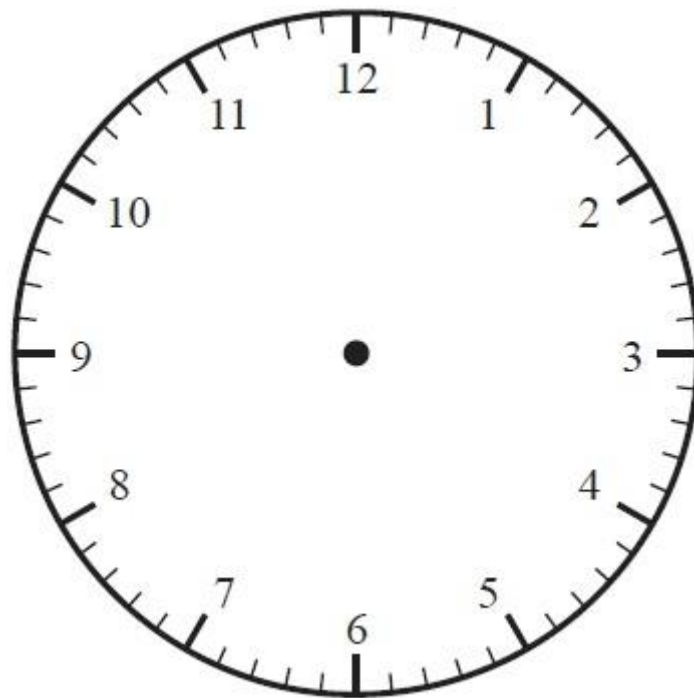
.....  
(2)

(c) Work out  $1000 - 237$

.....  
(2)

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

**Q17.**



(a) Draw hands on this clock to show a time of 8 20 am.

(1)

(b) How long is it from 8 20 am to 3 05 pm?

.....

(2)

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

**Q18.**

9 rulers of the same type cost £1.80

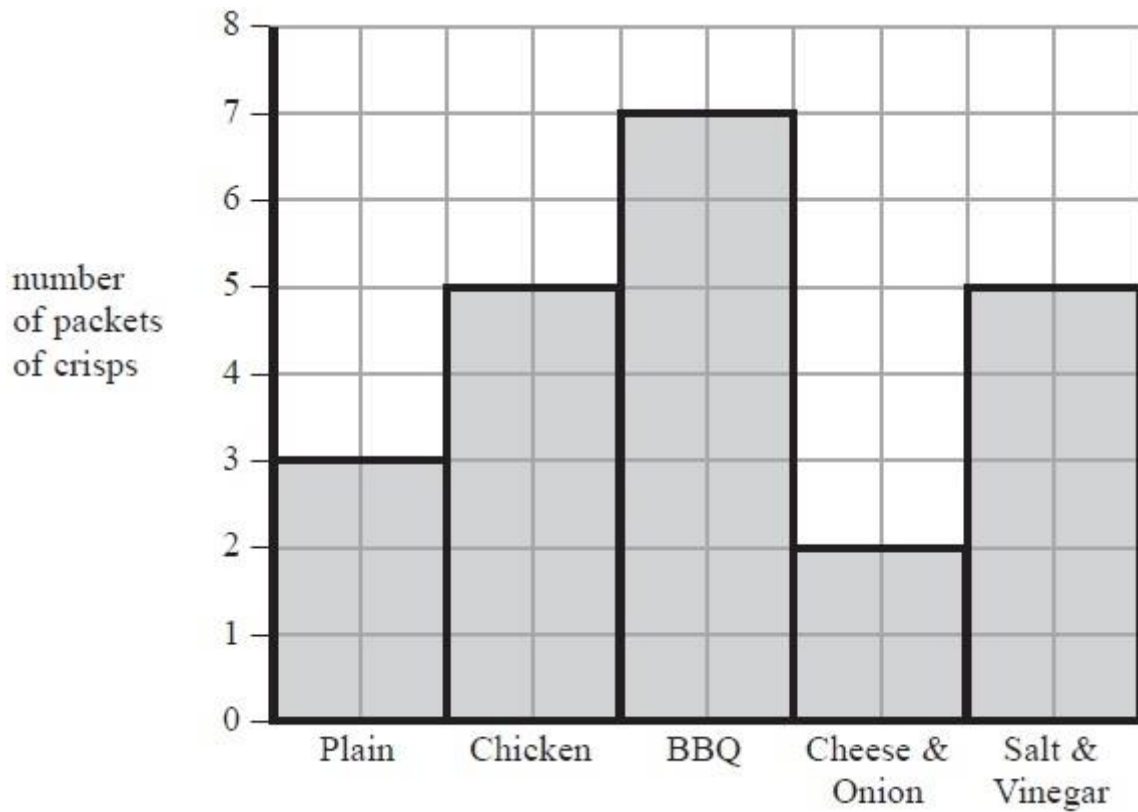
What is the cost of 7 rulers of this type?

£.....

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

**Q19.**

The bar chart shows information about packets of crisps.



(a) How many packets were Chicken?

.....  
(1)

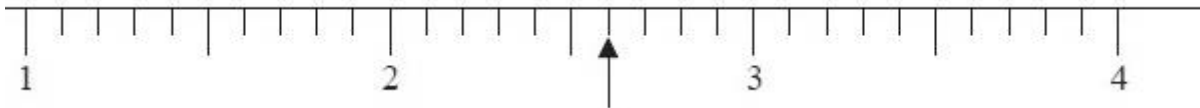
(b) What is the total number of packets of crisps?

.....  
(2)

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

**Q20.**

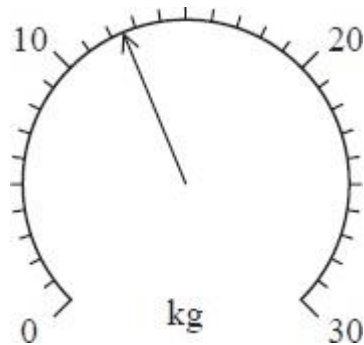
(a)



Write down the number marked with the arrow.

.....  
(1)

(b)



Write down the number marked with the arrow.

.....  
(1)

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

**Q21.**

130 people had one drink each.  
The drink was orange or lemonade or milk.

The two-way table gives information about these people and their drink.

	orange	lemonade	milk	Total
male		17	19	
female	24		30	
Total	39			130

(a) Write down the number of females who had an orange drink.

.....  
(1)

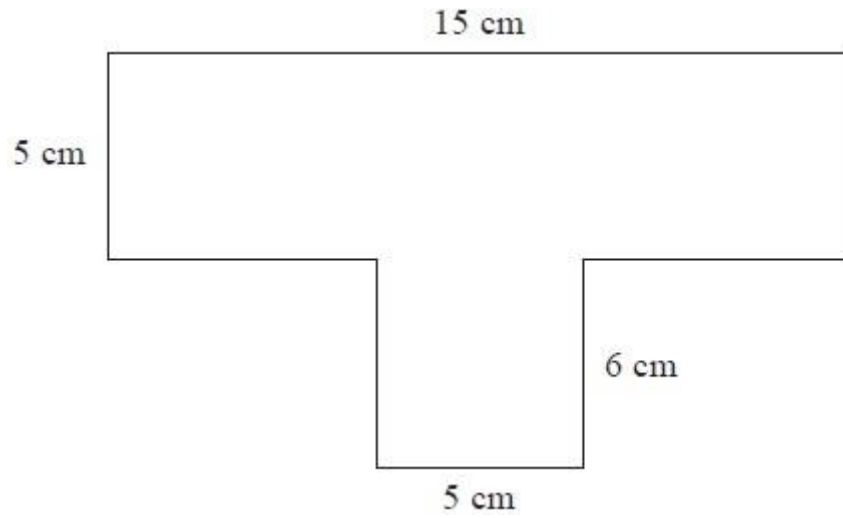
(b) Complete the two-way table.

(3)

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

**Q22.**

Here is a shape made from 2 rectangles.



Work out the area of the shape.

..... cm<sup>2</sup>

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

**Q23.**

What is half of 2.01?

.....

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



**Q24.**

A small bucket holds 60 litres. Three small buckets hold the same as two medium buckets. Three medium buckets hold the same as two large buckets. How many litres does a large bucket hold?



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

**Q25.**

A pattern that repeats every six letters starts as shown below:

A B A C A D A B A C A D ...

Which are the 70<sup>th</sup> and 71<sup>st</sup> letters, in that order, in the pattern?

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

**Q26.**

A book costs £3.40 and a magazine costs £1.60. Clive spends exactly £23 on books and magazines. How many magazines does he buy?

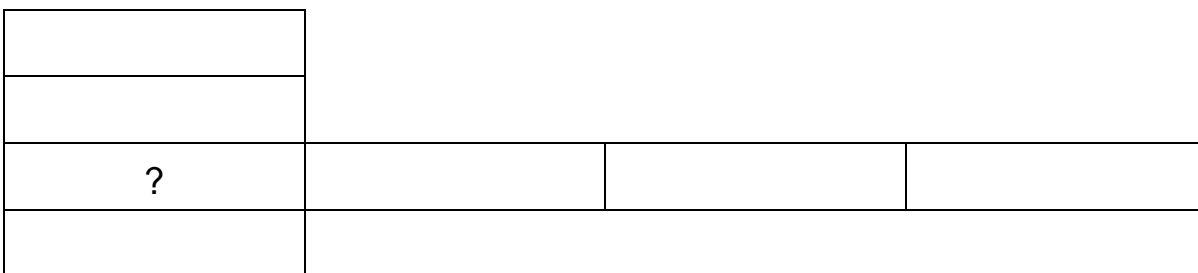


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**(Total for Question is 2 marks)**

**Q27.**

The numbers 1, 2, 3, 4, 5, 6, 7 are to be placed, one in each box, in the diagram below. The four numbers in the vertical column add up to 17 and the four numbers in the horizontal row add up to 17. Work out the number that should replace ‘?’.



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

**Q28.**

When Clare stands on a step and Debbie stands on the floor, Clare appears to be 20 cm taller than Debbie. When they swap places, Debbie appears to be 21 cm taller than Clare. How high is the step?



.....  
(Total for Question is 1 marks)

**Q29.**

The multiplication grid below is missing all the input numbers in the top row and in the first column. Use the given answers to find  $A+B+C+D+E$ .

X					
	A	10		20	
	15	B	40		
	18		C	60	
		20		D	24
			56		E

.....  
(Total for Question is 3 marks)

**Q30.**

Mark and Mandy spun a coin 35 times. Whenever the coin showed heads, Mark gave three sweets to Mandy. When the coin showed tails, Mandy gave four sweets to Mark. After 35 spins, both Mark and Mandy had the same number of sweets as they started with. How many time were heads spun?



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

**Q31.**

After playing 200 games, my success rate is 48%. If I win every game from now on, how many more times do I need to play for my success rate to reach 50%?

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

**Q32.**

Bob wants to complete the diagram below by inserting three numbers, one into each empty box. He wants the first three numbers to add up to 36, the middle three numbers to add up to 35 and the last three numbers to add up to 44. What number should go in the middle box?

10				16
----	--	--	--	----

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