PRIOR PARK
COLLEGE
BATH

MATHEMATICS

EXEMPLAR ENTRY AT 11+

Name: TR.

READ THE FOLLOWING CAREFULLY:

1. Calculators are NOT permitted.
2. You have 1 hour.
3. Total 70 marks

1. The table shows the number of competitors in the Olympic Games held in each of 6 cities.

City	Number of competitors
Munich	7123
Montreal	6028
Moscow	5217
Los Angeles	6797
Seoul	8465
Barcelona	9367

(a) Which number in the table is the largest?

9367

.....

(1)

(b) Write down the value of the 2 in the number 5217

ThHTU

200

.....

(1)

(c) Write the number 8465 correct to the nearest thousand.

8000

.....

(1)

(d) Which number in the table is a multiple of 4?

6028

.....

(1)

(e) Use a number from the table to make this calculation correct.

5217 ..... ÷ 3 = 1739

(1)

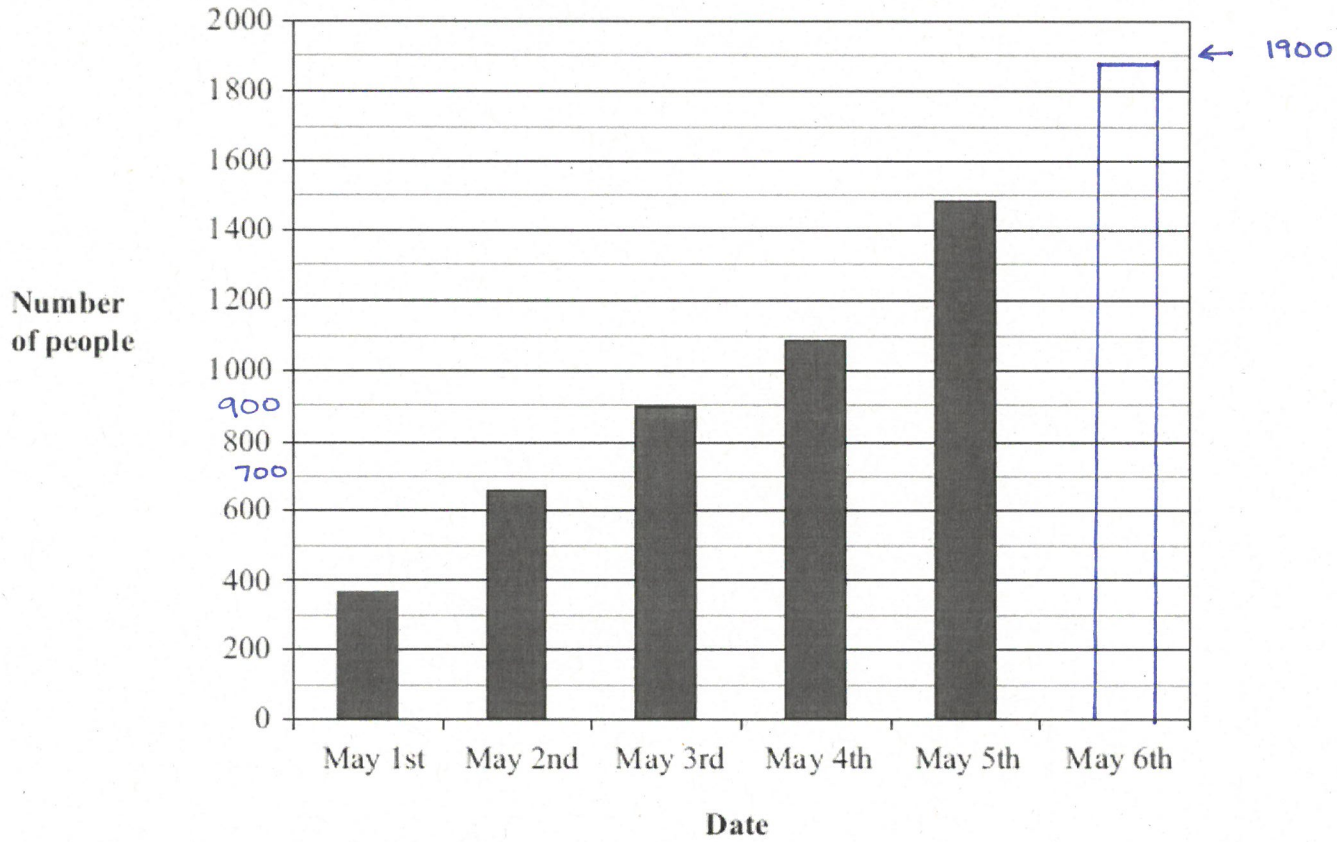
(Total for Question 1 is 5 marks)

1739

3 | 5217

2 1 2

2. The bar chart shows information about the number of people in the world who had swine flu on each of the first 5 days of May 2009.



(a) How many people had swine flu on May 3rd?

900

.....

(1)

(b) On which date did 658 people have swine flu?

May 2nd

.....

(1)

(c) On May 6th, 1893 people had swine flu.
Draw a bar on the bar chart to show this information.

(1)

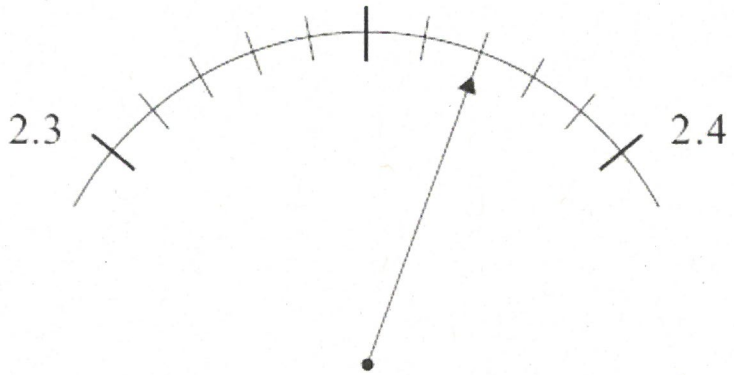
(Total for Question 2 is 3 marks)

3. (a) Work out the number which is exactly halfway between 0.3 and 0.6

.....

(1)

(b)



What is the reading on the scale?

.....

(1)

(c) Write down the value of the 3 in the number 0.243

.....

(1)

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

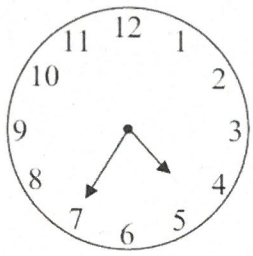
0.18 0.08 0.2 0.06 0.1

.....

(2)

(Total for Question 3 is 5 marks)

4.



(*a*) The clock shows the time in the **afternoon** at which a train leaves Colombo for Kandy.

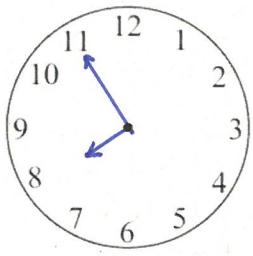
Write down this time using the 12-hour clock.

4·35 pm

(1)

(*b*) The train arrives in Kandy at five to eight in the evening.

On the clock face, draw hands to show a time of five to eight.



(1)

(c) Jamie's piano exam starts at 10.47. It lasts 18 minutes.

At what time does his exam finish?

10·47 — 1100 — 1105

13 min — 5 m

11:05

(2)

(d) A train leaves Barton at 4.15 pm and arrives at Dedford at 19.10.
How long is the train journey?

4·15 — 16·15 — 17·15 — 18·15 — 19·10

1 hr — 1 hr — 55 min

2 hours 55 minutes

(2)

(Total for Question 4 is 6 marks)

5. Kali is drawing a pictogram to represent the number of DVDs he owns.
He sorts his DVDs into different types.

Key ◯ represents 4 DVDs

Type of DVD	Number of DVDs	
Film	4 4 4 4 4 2	22
Music	4 4 4	12
Comedy	3	3
Wildlife		

(a) How many Music DVDs does Kali own?

12

(1)

(b) How many more Film DVDs than Comedy DVDs does Kali own?

22 - 3

19

(2)

(c) Kali owns 6 Wildlife DVDs.
Complete the pictogram to show this information.

(1)

(Total for Question 5 is 4 marks)

6 (a) Simplify $3m + 4m$

7m

.....

(1)

(b) Simplify fully $\frac{12x}{6}$ $= 2x$

2x

.....

(1)

(c) Solve $7y + 1 = 36$

$7y = 36 - 1$

$7y = 35$

$y = 35 \div 7$

$y = 5$

.....

(2)

(Total for Question 6 is 4 marks)

7.

2	6	9	16	17	18	20

From the numbers in the box, write down

(a) both the odd numbers,

9, 17

.....

(2)

(b) both the square numbers,

1, 4, 9, 16, 25

9, 16.

.....

(2)

(c) both the prime numbers.

2, 17

.....

(2)

(Total for Question 7 is 6 marks)

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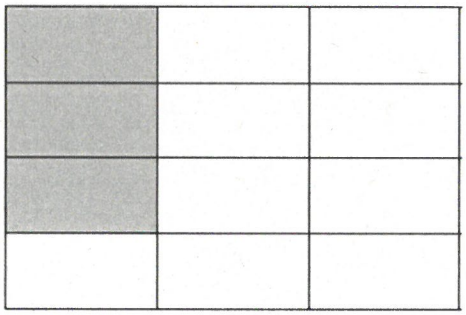
8 (a)



(i) What fraction of this shape is shaded?
Give your fraction in its simplest form.

$\frac{3}{12} = \frac{1}{4}$

.....

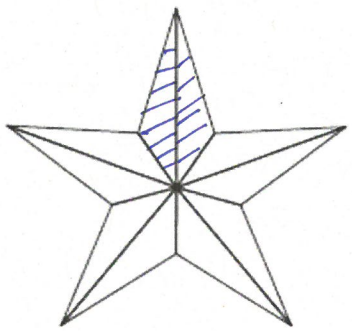
(ii) Write your answer to part (i) as a decimal.

$4 \overline{)1.00} = 0.25$

.....

(3)

(b)



$\frac{2}{10}$

(i) Shade 20% of this shape.

(ii) What percentage of the shape is unshaded?

$\frac{8}{10} = \frac{80}{100}$

80 .....%

(2)

(Total for Question 8 is 5 marks)

9.

kilometre	millimetre	metre	centimetre
centilitre	kilogram	gram	litre

(a) Write down a sensible unit from the box above to measure

(i) the length of a hand

centimetre / millimetre

(1)

(ii) the length of a ship

metre.

(1)

(iii) the mass of an apple

gram

(1)

(b) How many millimetres are equivalent to 1 metre?

1000

(2)

(Total for Question 9 is 5 marks)

10. On the probability scale, mark with a cross (×), the probability that

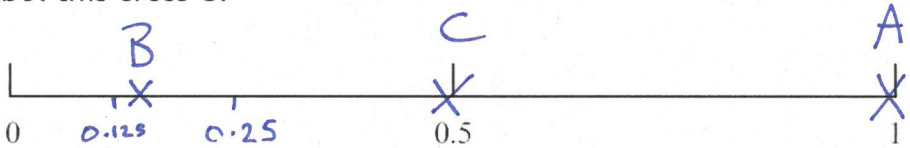
(i) you will have something to drink tomorrow.
Label this cross **A**.

(ii) a teacher chosen at random was born on a Monday.
Label this cross **B**.

$\frac{1}{7} = 7\overline{)1.^{1}0^{3}0}$ 0.14,

(iii) a fair 6-sided dice will show an even number when thrown.
Label this cross **C**.

$\frac{3}{6} = 0.5$



(Total for Question 10 is 3 marks)

11. There are 4 pears in a pack.

4 x 5

(i) How many pears are there in 5 packs?

20

.....

(1)

(ii) There are 3 people in the Jones family.
Each person eats one pear every day.

a) How many pears will the Jones family eat in 7 days?

7 x 3

21 pears.

.....

(1)

b) How many packs of pears will the Jones family need to buy to have enough pears for 7 days?

21 ÷ 4 = 5.1.

6 packs

.....

(2)

(iii) A pack of 4 pears costs £1.56.
Work out the cost of each pear.

$$4\overline{)1{\cdot}^{1}5^{3}6} \quad 0{\cdot}39$$

£0.39 or 39p.

.....

(2)

(Total for Question 11 is 5 marks)

20,000
46

12. (a) Write the number twenty thousand and forty six in figures.

20,046

(1)

(b) Work out

(i) 304 × 10

3040

(1)

(ii) 5.1 × 100

510

(1)

(iii) 4.2 ÷ 10

0.42

(1)

(iv) 9080 ÷ 100

90.80

(1)

(c) Two numbers add to make 9 and multiply to make 18.
What are the two numbers?

3 & 6

(2)

(Total for Question 12 is 7 marks)

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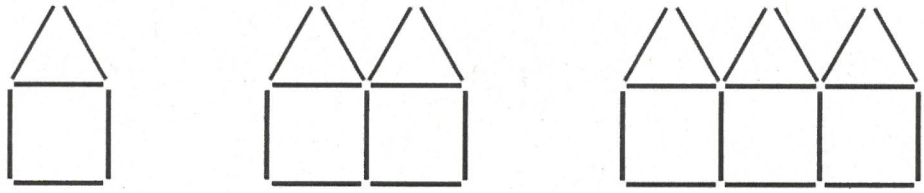
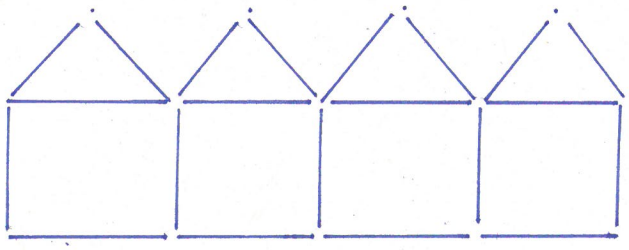
1 & 8	8
2 & 7	14
3 & 6	18

13. Here are some patterns made from sticks.



Pattern number 1 Pattern number 2 Pattern number 3

(*a*) In the space below, draw Pattern number 4.



(2)

This rule can be used to work out the number of sticks in each pattern.

Multiply the Pattern number by 5 and then add 1

(*b*) Work out the number of sticks in Pattern number 6.

$6 \times 5 + 1$

31

.....

(2)

p

(*c*) A pattern is made from 61 sticks.
Work out the Pattern number.

$p \times 5 + 1 = 61$

$5p + 1 = 61$

$5p = 61 - 1$

$5p = 60$

12.

.....

(2)

(Total for Question 13 is 6 marks)

1, 2, 3, 4, 5, 10, 12, 18, 15, 24, 36, 72, 90, 180, 360.

14.

a) Which factors of 360 are also multiples of 12?

360, 180, 72, 36, 24, 12

(1)

b) We know that 9 X 8 = 72. What is the value of 7200 ÷ 8000?

72 ÷ 8 = 9

0.9

(1)

c) What is the total of the first five prime numbers?

2, 3, 5, 7, 11

28.

9 17 14 20 15 19 12 14 5

(1)

d) What is the value of: 10 - 1 + 8 - 3 + 6 - 5 + 4 - 7 + 2 - 9?

5.

(1)

e) Find the value of $14^2 - 13^2$?

$14^2 = 196$

$13^2 = 169$

27

27

(1)

(Total for Question 14 is 5 marks)

END OF EXAMINATION