

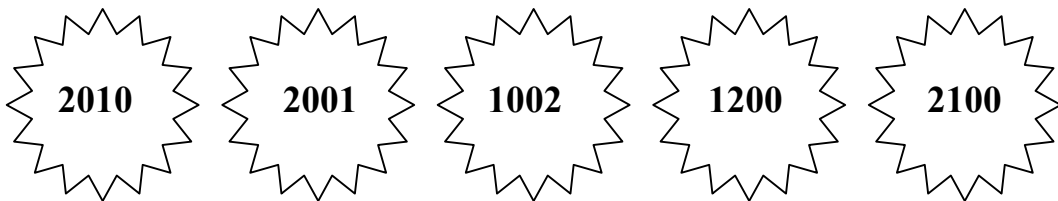
**Junior Lyceum Entrance Examination into Form One  
2001**

**MATHEMATICS**

ANSWER ALL QUESTIONS.

(Questions 1 to 10 . . . 4 marks each; questions 11 to 20 . . . 6 marks each.)

1. Look at these five numbers:



i) Write them in order, **the smallest first**.

\_\_\_\_\_

ii) Work out the **difference** between the **odd number** and the **smallest number**.

\_\_\_\_\_

2. a) Complete these sequences:

(i) 77, 88, 99, \_\_\_\_\_, 121 .

(ii) 3·1, 2·6, 2·1, \_\_\_\_\_, 1·1.

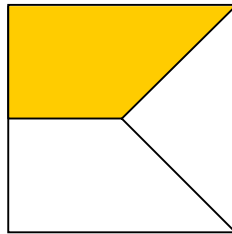
b) Fill in the two missing numbers:

<b>x</b>	<b>4</b>	
<b>6</b>	<b>2</b>	
<b>8</b>	<b>3</b>	<b>7</b>

3. Underline the correct answer:

- a) The height of a classroom is about  
300 mm                      3 m                      3 km                      35 cm
- b) The weight of a school bag with books could be  
20 g                      250 g                      200 g                      2 kg
- c) The cost of 25 bottles of cola at 39c each is roughly  
Lm100                      Lm45                      Lm10                      Lm40
- d) The average of 22 and 97 is roughly equal to  
30                      40                      50                      60
- 

4. a) Look at this square. What **fraction** of the whole square is shaded?



\_\_\_\_\_

b) Which is the **bigger**,  $\frac{3}{8}$  or  $\frac{1}{2}$ ?

\_\_\_\_\_

By how much?

\_\_\_\_\_

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5. Change:

a) 5  $\frac{1}{4}$  **metres** into **centimetres** \_\_\_\_\_ cm

b) 92 **millimetres** into **centimetres** \_\_\_\_\_ cm

c) 1.02 **litres** into **millilitres** \_\_\_\_\_ ml

d) 75 **grams** into **kilograms** \_\_\_\_\_ kg

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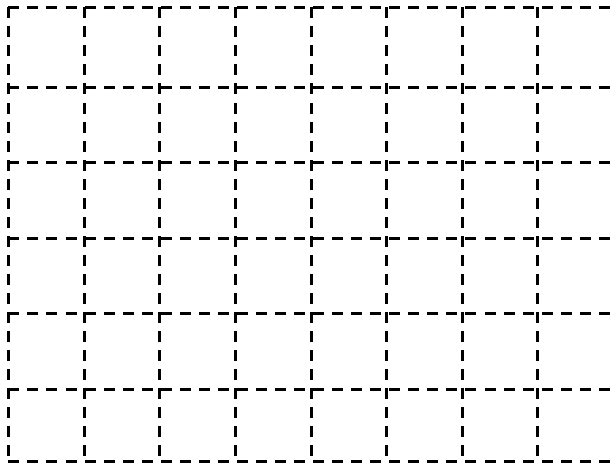
6. A ticket for a film show costs Lm2·40.  
25 people pay to watch the film.

How much money is paid in all?

Lm \_\_\_\_\_

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7.



On this grid each small square is of side 1 cm.

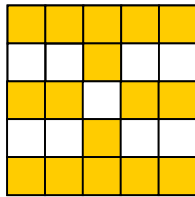
i) Draw on the grid a **rectangle** with a **perimeter** of 18 cm.

ii) Work out the **area** of your **rectangle**.

\_\_\_\_\_ cm<sup>2</sup>

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8. a) What **percentage** is shaded?



\_\_\_\_\_ %

- b) Monica and Tony sat for a test. The test was **out of 25 marks**.  
**Monica** got **16 marks**.  
**Tony** got **60%** of the marks.

Who did better in the test, **Monica** or **Tony**?

\_\_\_\_\_

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9. a) (Help: 35 is a number with two figures, 3 and 5. The sum of the two figures is 8.)  
 Monica writes a **prime** number with **two figures**.  
 The number is **between 30 and 50**.  
 The **sum** of the two figures is 7.

The number Monica writes is

\_ \_



- b) Tony writes a **square** number **greater than 30**.  
 The number is **odd** and has **two figures**.  
 The **sum** of the two figures is 9.



The number Tony writes is

\_ \_

10. Tony and Monica are flying to London tomorrow.  
 They make a timeline.



They have to wake up at **05:15**.

They have to be at the Airport  $1\frac{3}{4}$  **hours** before the plane leaves.

The plane leaves at **08:00**.

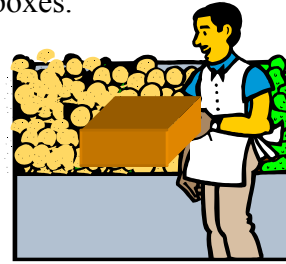
- i) At what time must they be at the Airport?

\_\_\_\_\_

- ii) At what time must they leave home?

\_\_\_\_\_

11. A greengrocer has **700 apples**. He packs the apples in boxes.  
 Each box holds the same number of apples.  
 He fills **29 boxes** completely.  
 Some apples are left over.



- i) How many apples are packed in **one box**?

\_\_\_\_\_ apples

- ii) How many apples are **left over**?

\_\_\_\_\_ apples

12. Monica goes to the greengrocer.  
 She buys **4 kg** potatoes for **Lm1.08**.



Work out the cost of

- i) **1 kg** potatoes;

\_\_\_\_\_ cents

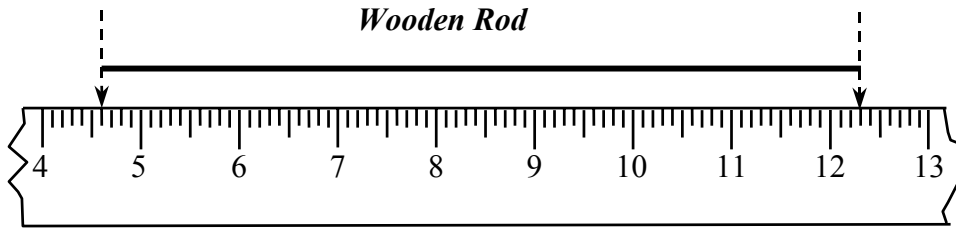
- ii) **8 kg** potatoes;

Lm \_\_\_\_\_

- iii) **13 kg** potatoes.

Lm \_\_\_\_\_

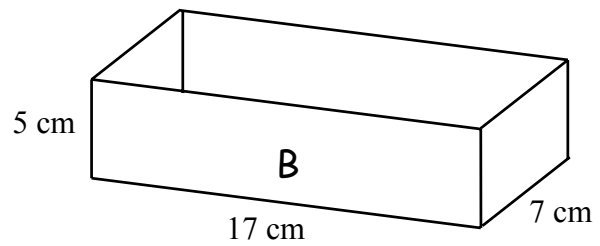
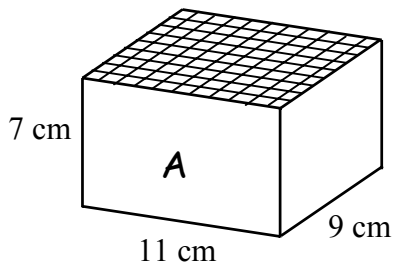
13. a) Tony has a broken ruler, marked in centimetres.  
He measures the length of a wooden rod with this ruler.



The length of the wooden rod is \_\_\_\_\_ cm. (Help: *Do not use your ruler!*)

- b) Monica has two boxes, **A** and **B**.

Box **A** is completely filled with **1 cm cubes**. Box **B** is empty.



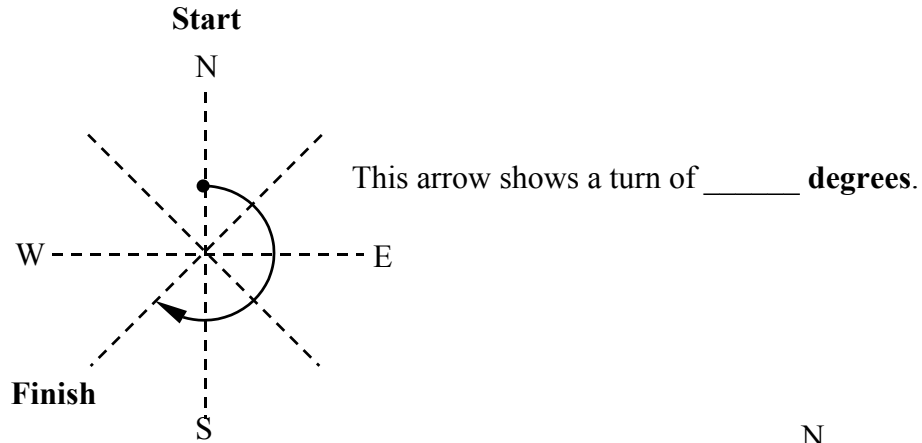
- i) How many **1 cm cubes** are there in box **A**?

\_\_\_\_\_ cubes

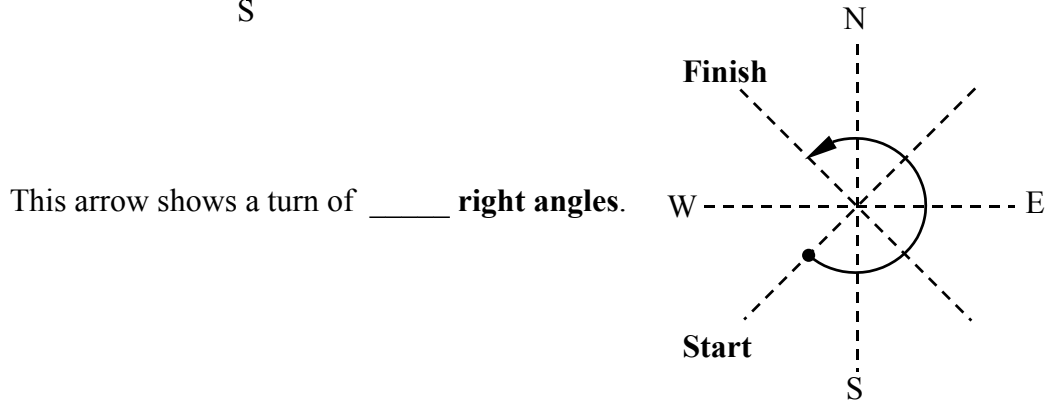
- ii) Monica takes out cubes from box **A** until she fills box **B** completely.  
How many cubes are left in box **A**?

\_\_\_\_\_ cubes left

14.a)



b)



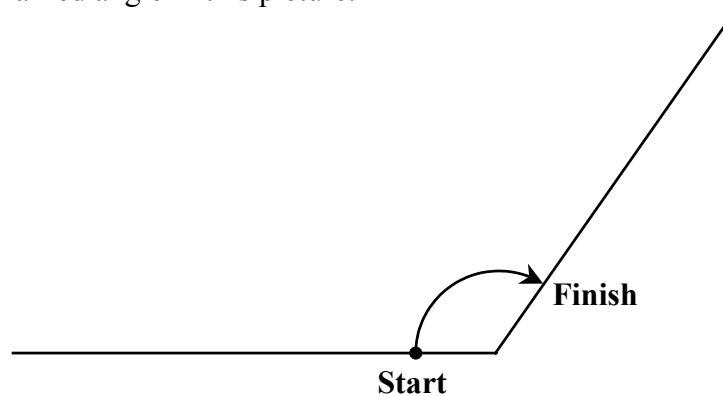
c) Tony faces **North East**. He turns **clockwise** to face **South**.

He turns through \_\_\_\_\_ degrees.

d) Monica faces **South**. She turns **anticlockwise** through **1 ½ right angles**.

She now faces \_\_\_\_\_.

e) Look at the marked angle in this picture.



i) Is the marked angle **acute** or **obtuse**? \_\_\_\_\_

ii) Use a protractor to measure the marked angle. \_\_\_\_\_

15. a) Complete:  $0.6 = \frac{\quad}{10} = \frac{60}{\quad} = \quad\% .$

b) At a party there were 50 people.

40% of them were **males**.

i) What **percentage** were **females**?

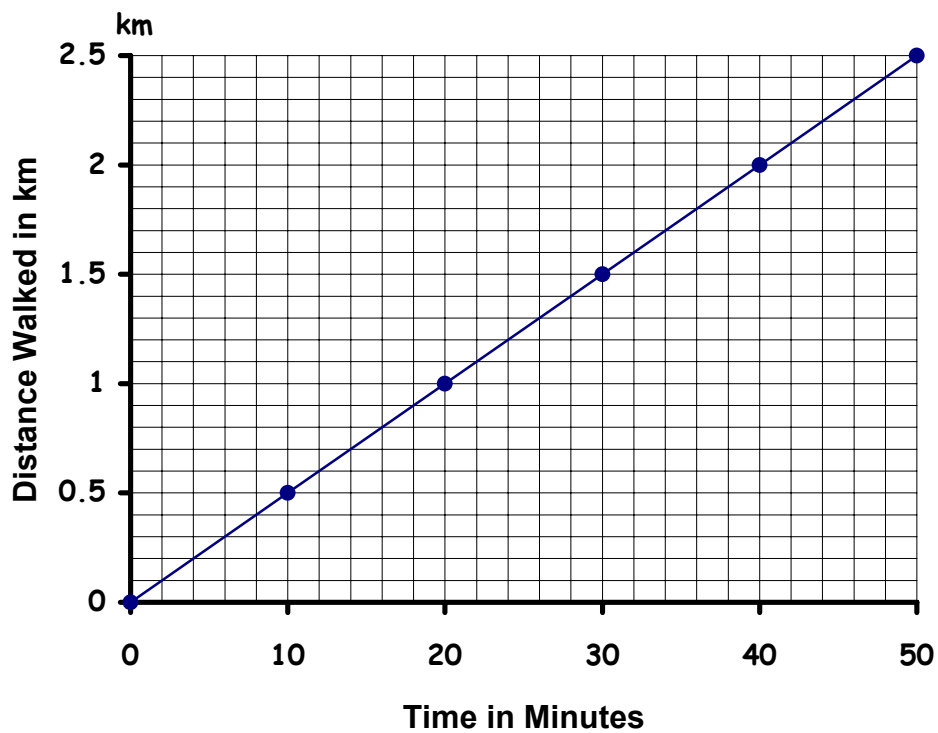
\_\_\_\_\_ %

ii) How many **females** were at the party?

\_\_\_\_\_

16. Look at this graph.

It shows the distance in kilometres Monica walked in 50 minutes.



i) What **distance**, in kilometres, did she walk in **26 minutes**? \_\_\_\_\_ km

ii) How long will it take her to walk **700 metres**? \_\_\_\_\_ min

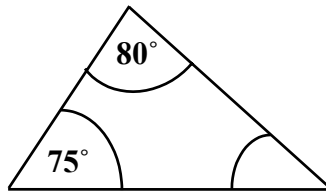
iii) What is her walking speed in **kilometres per hour**?

\_\_\_\_\_ km/h



17. a) Draw a circle with a **diameter** of 10 cm.

b) Look at this triangle.



The three corners of the triangle are cut and placed side by side on a straight line.



i) **Work out** the size of the missing angle.  
(Help: *Do not use a protractor!*)

\_\_\_\_\_

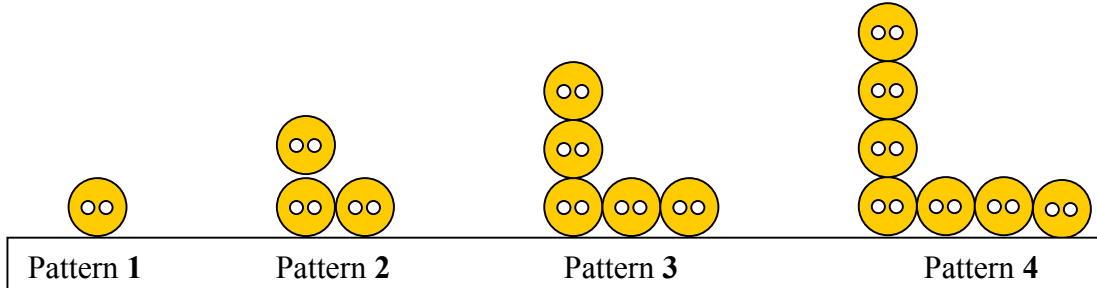
ii) Is this triangle **scalene**, **isosceles** or **equilateral**? \_\_\_\_\_

\_\_\_\_\_

18. Tony and Monica make patterns with buttons.

Each button has two holes.

The picture shows the first four patterns they make.



Tony and Monica make **10** patterns in all.

They note the **number of buttons** and the **number of holes** in each pattern.

They write the results in a table.

<b>Pattern Number</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>10</b>
Number of <b>Buttons</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>7</b>		
Number of <b>Holes</b>	<b>2</b>	<b>6</b>	<b>10</b>	<b>14</b>		

a) **Look carefully at the numbers in the table.**

Complete the table for Pattern **5** and Pattern **10**.

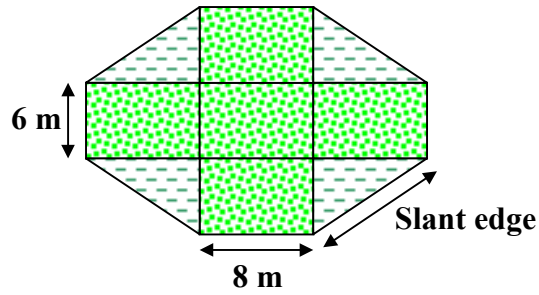
b) Which Pattern **Number** do they make with **15 buttons**?

Pattern \_\_\_\_\_

c) Which Pattern **Number** will have **26 holes**?

Pattern \_\_\_\_\_

19.



This is the plan of a garden.  
It is made up of **five rectangles** of the same size and **four triangles**.

i) Work out the **area** of **one triangle**.

\_\_\_\_\_ m<sup>2</sup>

ii) The **perimeter** of the garden is **68 m**.  
Work out the length of **one slant edge** of the garden.

\_\_\_\_\_ m

20. **Today** the sun rises at **05:55** and sets at **20:02**.

**Tomorrow** the sun rises at **05:54** and sets at **20:03**.



i) Work out the number of hours and minutes of **daylight today**.

\_\_\_ h \_\_\_ min

ii) Work out the number of hours and minutes of **darkness**.

\_\_\_ h \_\_\_ min

**END OF PAPER**