SECONDARY SCHOOLS ANNUAL EXAMINATIONS - 2001

Educational Assessment Unit - Education Division

FORM 2   **MATHEMATICS (MENTAL)**   **TIME: 15 minutes**

Name _____

Class _____

Mark

- **ANSWER ALL QUESTIONS.**
- **EACH QUESTION CARRIES 1 MARK.**
- **CALCULATORS, RULERS, PROTRACTORS AND OTHER MATHEMATICAL INSTRUMENTS ARE NOT ALLOWED.**
- **WRITE DOWN YOUR ANSWER ONLY IN THE SPACE PROVIDED.**

DO NOT WRITE IN THIS SPACE

QUESTION	ANSWER
1. Three tins of beans cost 75c. How much does one cost?	
2. Shade $\frac{1}{3}$ of the figure shown.	
3. What is the sum of the three angles in a triangle?	
4. The petrol tank of a car is 50% full. The tank is filled by adding 15 litres. What is the capacity of the tank?	
5. Write $\frac{1}{4}$ as a percentage.	
6. Fiona needs 480 tea-bags. How many boxes would she need?	
7. The notice in a sale says "10% off" How much should I pay for a suit marked Lm60?	
8. Find the value of $8^2 - 4^2$.	
9. Estimate the size of the angle shown.	
10. If x = 4, what is the value of 5x ?	

SECONDARY SCHOOLS ANNUAL EXAMINATIONS 2001

Educational Assessment Unit - Education Division

FORM 2   **MATHEMATICS (Main Paper)**   **TIME: 1 h 45 min**

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Main	Mental	**Global Mark**
Mark																		

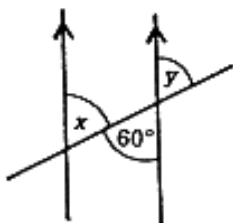## DO NOT WRITE ABOVE THIS LINE
ANSWER ALL QUESTIONS

Name _____   Class _____

1. Find the size of angles *x* and *y* shown in the diagram. Give reasons.
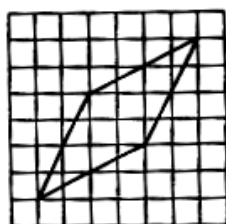

(4 marks)

2. Peter poured $\frac{3}{8}$ of a can of oil into the engine of his car. He had 5 litres left over. How much did he use?   Give your answer in millilitres.

(4 marks)

3. a) Draw the lines of symmetry of the shape shown.

   b) The ages of the children in a swimming club are
       9, 10, 8, 10, 11, 8, 12, 9, 12, 11, 10, 10.
       Find the mean age.

(4 marks)

4. Solve the equations: a)   *y* + 3 = 8

b) $\dfrac{x}{4} = 5$

5. a) Write down the next two numbers in the list below:

    64,   16,   4,   _____,   _____.

    b) Write 36,747

        (i)   correct to the nearest 100   _____

        (ii)   correct to the nearest 1000   _____

6. a) Fill in the missing numbers

    $\dfrac{9}{\quad} = \dfrac{3}{5} = \dfrac{\quad}{30}$

    b) Write 0.40 as a fraction in its lowest form.   _____

    c) Work out $\sqrt{70}$ correct to 3 significant figures.   _____

7   School starts at 8.30 a.m. and finishes at 3.00 p.m.
    a) How long do the children spend at school?
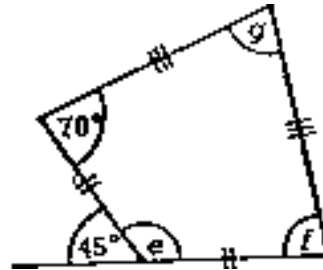
    b) The first lesson starts at 8.40 a.m. and lasts 45 minutes. At what time does it end?

c) Midday break starts at 12.15 p.m. and lasts 1 hour 15 minutes. At what time does the break end?

8. Find the sizes of the marked angles e,f,and g.
Give reasons.

9. This is a scale drawing of a room.

Scale: 1cm ≡ 2 metres

a) How long in centimetres is this scale drawing?

b) How long in metres is this room?

c) What is the perimeter in centimetres of the scale drawing?
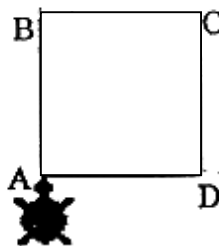

d) What is the area of the room in metres?

10. a) Complete the following logo commands to draw the square ABCD.

```
fd  50
rt  90


_____

_____
fd  50
rt  90


_____
```

B ⌐ C

A ⌐ D

b)   Complete (i)   The length of each side of the square is _____ turtle steps.

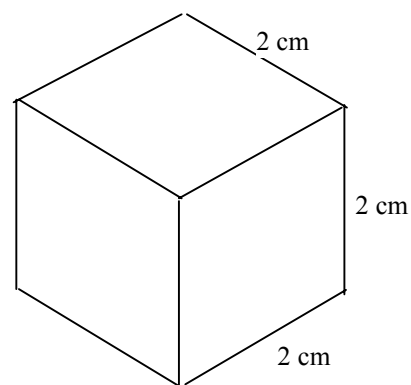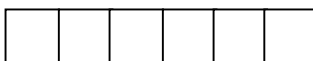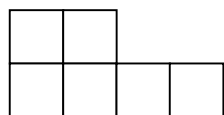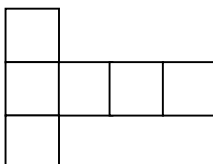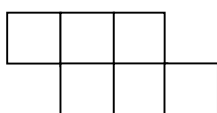(ii)   The perimeter of the square is _____ turtle steps.

(6 marks)

11. This is a picture of a cube.

a)   Fill in: The cube has _____ edges and _____ faces.

b)   Find the area of one of the faces of the cube.

2 cm

c)   Find the volume of the cube.

2 cm

d)   Which of the following is the net of a cube

2 cm
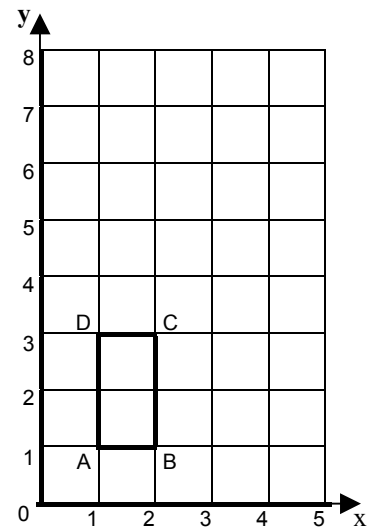
(8 marks)

12. a)   Complete: the Coordinates of point C are _____.

    b)   Mark the points E(4,1) and G(1,7).

    b)   AEFG is a rectangle.
         What are the coordinates of point F?

    d)   Complete : $\dfrac{Area\ of\ AEFG}{Area\ of\ ABCD}$ = ☐

(8 marks)

13.   The 24 pupils of class were given 5 questions. The number of correct answers are
      shown in the table below.

Correct Answers	Number of Pupils
0	1
1	2
2	4
3	8
4	6
5	
Total	

    a)   Complete the table.

    b)   How many pupils got 2 wrong answers?   _____

    c)   How many pupils got no correct answers?   _____
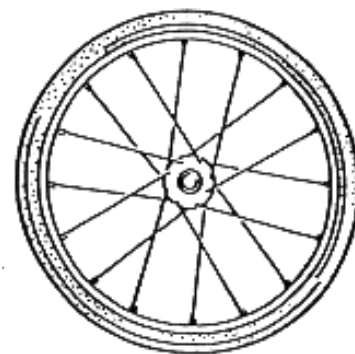
    A pupil is chosen at random.

    d)   What is the probability that the pupil got 3 correct answers?

    e)   What is the probability that the pupil got **at least** 4 correct answers?

(8 marks)

14. John's bicycle wheels have a radius of 20cm.
    a) What is the circumference of each wheel?
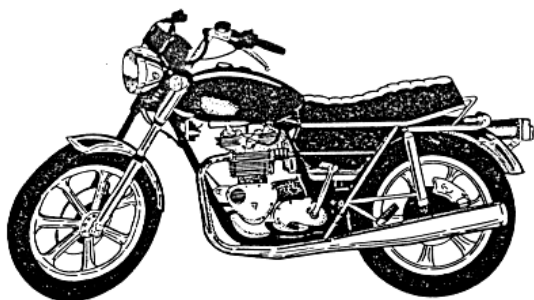   Give your answer correct to 3 significant figures.

    b) How far will the bicycle move forward if each wheel
       makes 100 complete turns?
       Give your answer correct to the nearest metre.

    c) How many complete turns will each wheel make if John cycles 1km?

(8 marks)

15. Andrew paid Lm4000 for his motorcycle.
    Each year it went down in value by 10% of its value at the beginning of that year

    a) What was the motorcycle worth after 1 year?

    b) By how much has the price decreased after 2 years?

    c) Express the decrease in the value after 2 years as a percentage of the
       original value.

(8 marks)