ALDENHAM SCHOOL

11 + Entrance Paper

Sample Paper 2011

Mathematics

Length of Examination – 45 minutes

Do not open until you are told to do so

Surname: ………………………………………….. School:……………………………………………

First name: …………………………………………... Age: Years ……… Months ………..

INSTRUCTIONS FOR CANDIDATES

- Write your answers in the spaces provided in this booklet
- Show sufficient method to show how you obtained your answers
- Calculators MUST NOT be used in any question.
- Drawing instruments may be used.

Work steadily through the paper doing as much as you can straight away. Then go back to work at the more difficult questions. Make sure you have attempted to answer all the questions. There are 15 questions on this paper.

1. a.   Complete this table.
         Write a sensible unit for each measurement.
         Three have been done for you already.

	Metric	Imperial
The length of your finger	....	inches
The distance between America and England	kilometres	....
The amount of petrol in a petrol tank	....	gallons

3 marks

b. Change 3 metres to centimetres.

……cm
2 marks

c.   Shalim says 1.5 Km is less than 1400 m.
      Is he correct?
      Explain your answer.

....

....

....
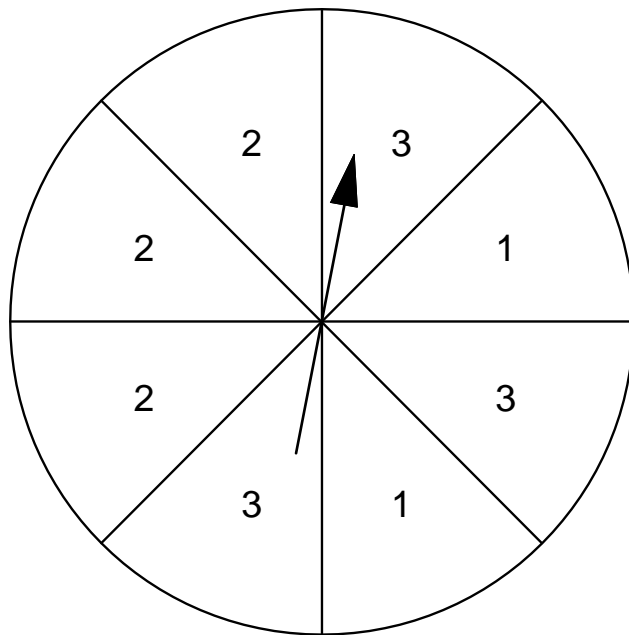.

1 mark

2. Here is a fair spinner divided into 8 equal sections.

I am going to spin the pointer.

For each statement below, tick (✓) True or False.

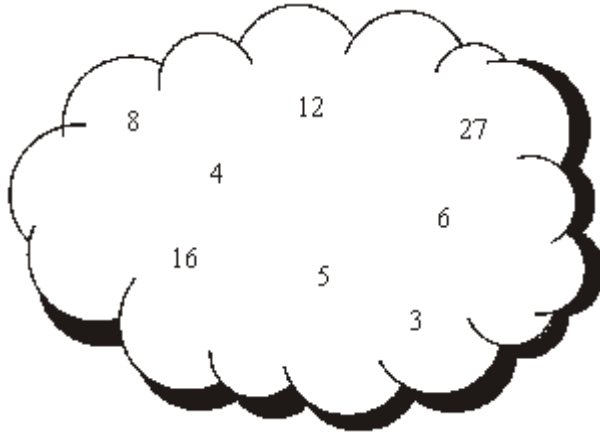|	True	False
I am **equally likely** to spin a 2 as to spin a 3	☐	☐
I am **more likely** to spin an even number than an odd number.	☐	☐
It is **impossible** that I will spin a number less than 2	☐	☐
It is **certain** that I will spin a number less than 4	☐	☐

2   marks

3.

Using only the numbers in the cloud, write down:

a. All the multiples of 6.

....

b. All the square numbers.

....

c. All the factors of 12.

....

d. All the prime numbers

....

4 marks

4. Calculate:

a) 294 + 697

....
1mark

b) 1053 - 697

....
1 mark

c) 397 x 6

....
1 mark

d) 264 ÷ 3

....
1 mark

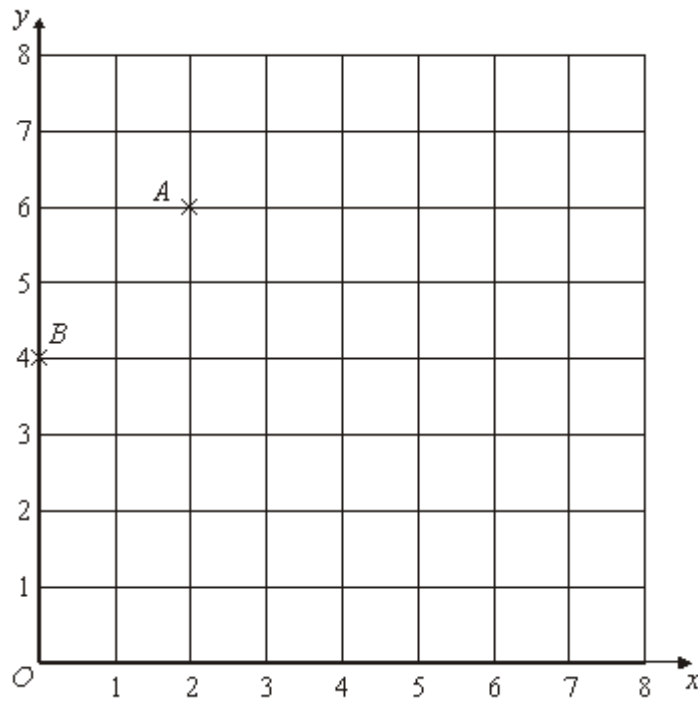5. Work out the following:

a) $\frac{1}{4}$ of 216

....
1 mark

b) $\frac{3}{7}$ of 21

....
2 marks

6.

a. Write down the coordinates of point A?

    (,   )

b. Write down the coordinates of point B?

    (,   )

c. On the grid, mark the point (6, 2) with the letter C

d. On the grid, add a point D so that ABCD forms a rectangle.

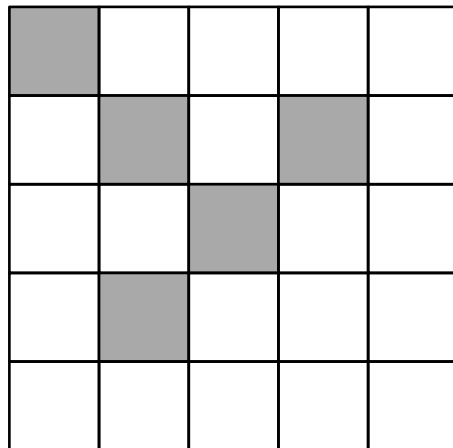7. I have 18 boxes of CDs. Each box contains 24 CDs. What is the total number of CDs that I have?

Show you working.

………………..CDs

2 marks

8. (a) This diagram has **one line of symmetry**.

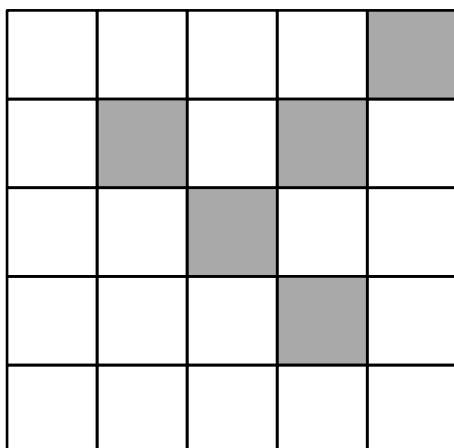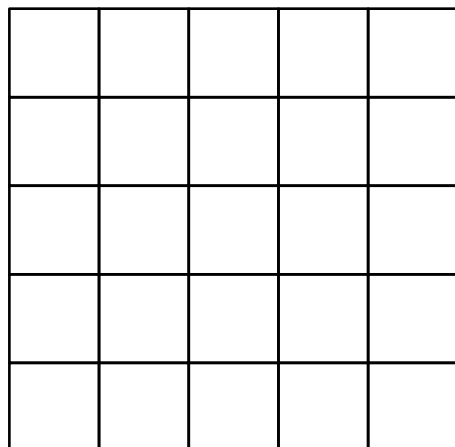Draw the line of symmetry on the diagram below.

Square grid

1 mark

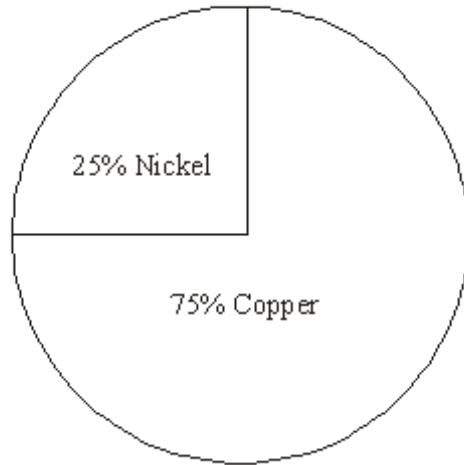(b) Here is the same diagram after a **quarter-turn clockwise**.

Square
grid

Complete the diagram below to show it after **another quarter-turn clockwise**.

Square
grid

1   mark

9.

The weight of a coin is 25% Nickel and 75% Copper.

a. (i) Write 25% as a decimal.

....

1 mark

(ii) Write 25% as a fraction
Give your answer in its simplest form.

....

1 mark

The weight of a coin is 8g.
25% of the weight is Nickel and 75% of the weight is Copper.

b. (i) Work out 25% of 8g

....

1 mark

(ii) Work out 75% of 8g

....

1 mark

10. a. Solve $2y = 8$

………..
1 mark

b. Solve $t - 4 = 7$

………..
1 mark

c. Solve $3x - 1 = 14$

………..
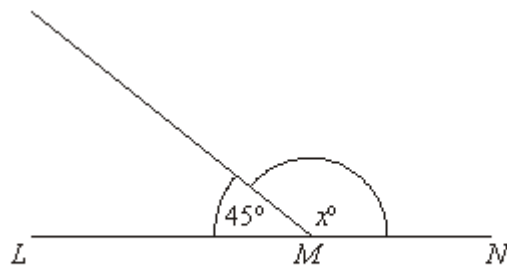1 mark

d.. Solve $\frac{z}{2} + 3 = 7$

………..
1 mark

11.

Diagram **NOT** accurately drawn

a. Work out the value of *x*.

……….
1 mark

b. Give a reason for your answer.

....

....
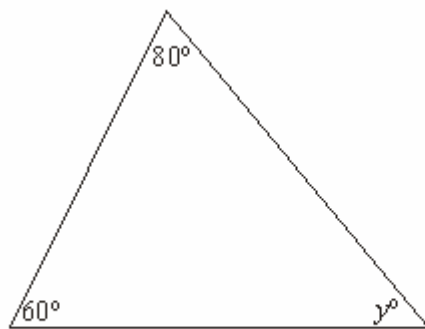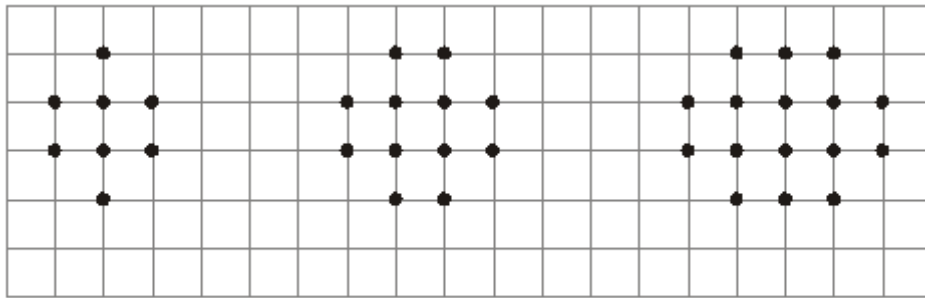
1 mark

Diagram **NOT** accurately drawn

c. Work out the value of *y*.

……….
2 marks

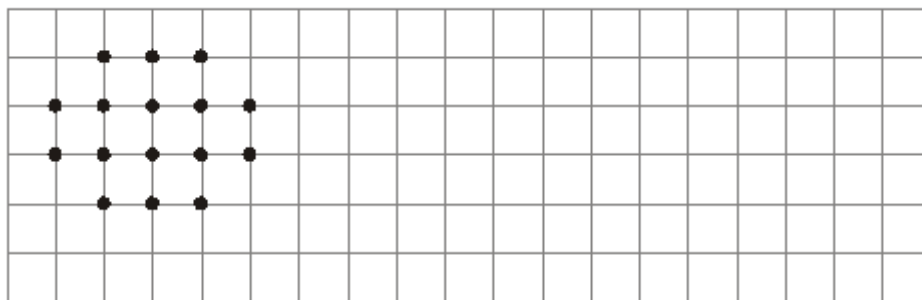12. Here are some patterns made with dots:

Pattern number 1   Pattern number 2   Pattern number 3

a. In the space below, complete Pattern 4.

Pattern number 4

1mark

b. Complete the table:

Pattern number	1	2	3	4	5
Number of dots	8	12	16		

1mark

c. How many dots would there be in Pattern number 20?

……….
2 marks

13.
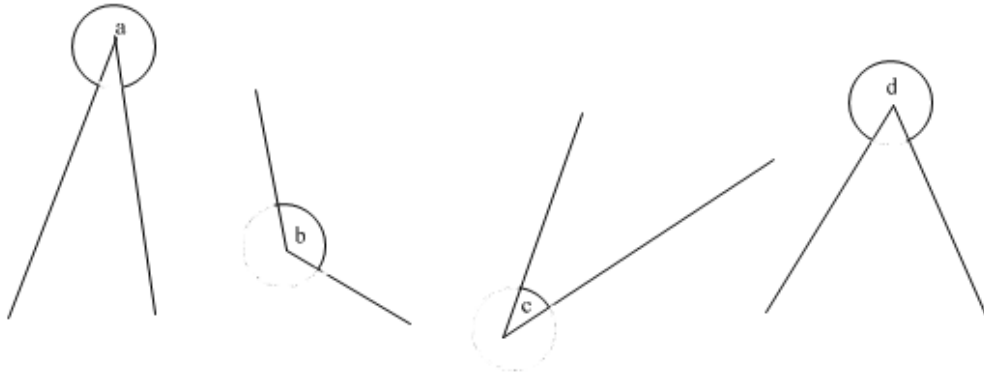
Decide whether each angle is acute, obtuse or reflex and write each letter into the correct column in the table below.

Angle *b* is done for you.

Acute	Obtuse	Reflex
	b	

2 marks

14. Chloe made a list of her homework marks

   5   5   5   5   4   3   2   1   4   5

   a. Write down the mode of her homework marks.

                                                          ………..
                                                          1 mark

   b. Write down the range of her homework marks.

                                                          ………..
                                                          1 mark

   c. What is her mean homework mark?

                                                          ………..
                                                          1 mark

15. Work out $\frac{1}{3} + \frac{3}{4}$

                                                          ………..
                                                          2   marks

                                                          [Total 50]