ALLEYN'S JUNIOR SCHOOL

9+

MATHEMATICS
SAMPLE PAPER

Name: ………………………………………………………...……………

Instructions for Candidates

Time: 35 minutes

Show all your working where necessary

You should write with a pencil and may use a ruler and rubber

NO CALCULATORS ALLOWED

For use by marker
Mark: /50
Comments:

Circle your answer.

1. What is the next number in the following pattern?
   9, 12, 15, 18

   A. 54   B. 32   C. 21   D. 23

2. What is the rise in temperature from -1°C to 8⁰ C

   A. 13 °C   B. 9°C   C. -3°C   D 7°C

3. One of the following is the same as 200cm. Which one?

   A. 0.2m   B. 2m   C. 20m   D. 2km

4. Write 180 seconds in minutes.

   A. 3   B. 4   C. 2   D. 5

5. The sum of two numbers is 14 and their difference is 4.
   What are the two numbers?

   A. 3 and 11   B. 4 and 8   C. 4 and 10   D. 5 and 9

(1 mark each)

5

Circle your answer.

6. 7 x 6 =

    A. 41   **B. 17**   **C. 42**   **D. 24**

7. 0.2 + 1.8 =

    A. 1.0   **B. 2.0**   **C. 20**   **D. 0.20**

8. Which is the smallest number in this list:
0.83, 0.8, 0.08, 1.80

    A. 0.83   **B. 0.8**   **C. 0.08**   **D. 1.80**

9. 81 ÷ ☺ = 27   What number is ☺?

    A. 9   **B. 3**   **C. 1.8**   **D.21**

10. $\frac{1}{2}$ of a number is 18. What is the number?

    A. 54   **B. 9**   **C. 36**   **D. 36**

(1 mark each)

5

Answer the following questions. Show your working out.

11.   +177
             24

12.   592
          x   5

13.   290
        -   84

14. 2979 ÷ 4

(2 marks each)

8

15.
Megan scored 18 out of 20 in a mental arithmetic test and 19 out of 30 in problem solving.

    a) What overall mark did she score out of 50?   _____ (2 marks)

    b) What was her percentage?   _____ (2 marks)

16.
Look at the following numbers.

  21, 22, 23, 24, 25, 26, 27, 28, 29, 30

 Write down which of them are:

    a) Even numbers   _____ (2 marks)

    b) Factors of 100   _____ (2 marks)

    c) Multiples of 3   _____ (2 marks)

17.
A length of string is 65 centimetres long and is cut into 10 equal pieces.

a) How long is each piece of string in **centimetres**?

                _____ cm   (2 marks)

b) How long is each small piece of string in **millimetres**?
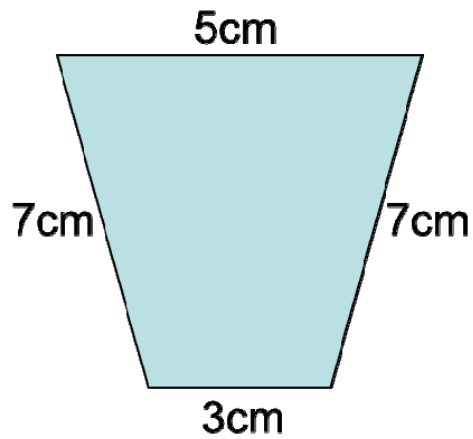
                _____ mm   (2 marks)
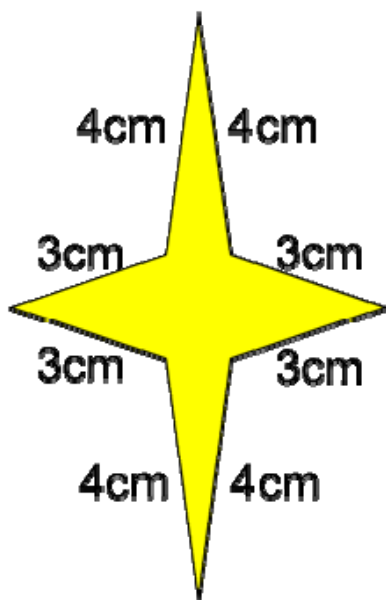

                                      14

18.

(a) Draw lines of symmetry on the following two shapes.   (2 marks)

(b) Work out their perimeters.   (2 marks)

5cm

7cm   7cm

3cm

Perimeter =_____

4cm   4cm

3cm   3cm

3cm   3cm

4cm   4cm

Perimeter =_____

4

19.

When I input the number 2 in to the number machine, my answer is 5.
Look what happens to all the numbers I input in to my machine.

INPUT		OUTPUT
2	$\longrightarrow$	5
3	$\longrightarrow$	7
4	$\longrightarrow$	9
5	$\longrightarrow$	?

(a) What will the output be when I input 5?

_____ (2 marks)

(b) Can you work out the rule for finding how any number I input is changed?

2 $\longrightarrow$ [   ] $\longrightarrow$ [   ] $\longrightarrow$ 5
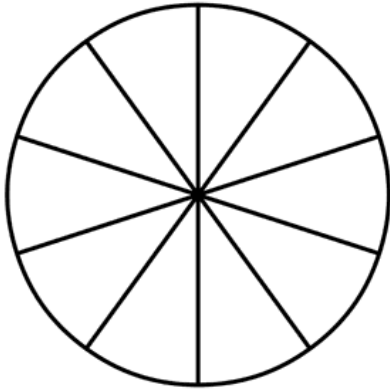
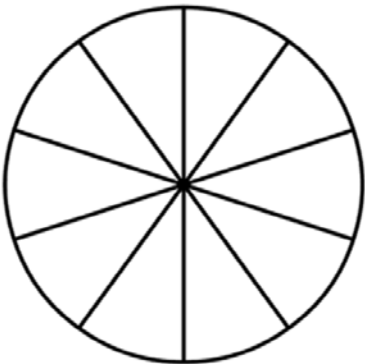(2 marks)

20.

a) Shade in **6 tenths** of this circle?   (2 marks)

b) Now shade in **2 fifths** of this circle?   (2 marks)

c) If you subtracted **2 fifths** from **6 tenths** how many **fifths** would be left?

_____ fifths   (2 marks)

6

21.

Look at the graph below to see how much rain fell in London during a week.

   a) If 175 mm of rain was recorded in London last week, how much rain fell on Tuesday?

                         _____ mm   (2 marks)

   b) Shade in the graph below to indicate this.   (2 marks)

4