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

3

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)

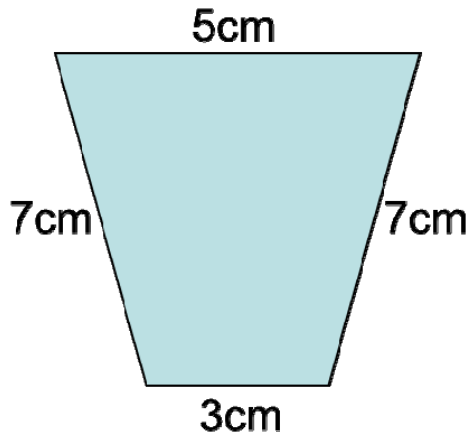b) How long is each small piece of string in **millimetres**?
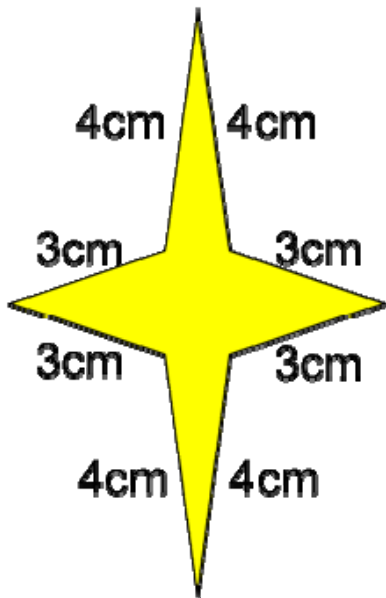
                                _____ mm   (2 marks)

                                          14

18.

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

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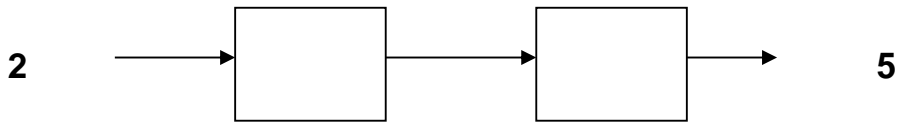

Perimeter =_____

Perimeter =_____

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)

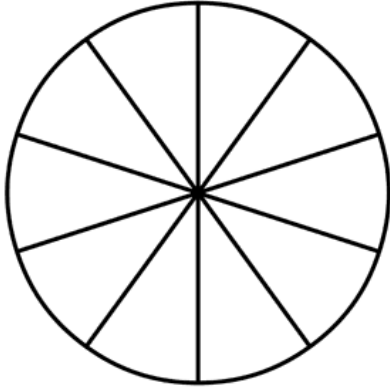(b) Can you work out the rule for finding how any number I input is changed?

2 $\longrightarrow$ ☐ $\longrightarrow$ ☐ $\longrightarrow$ 5

(2 marks)

4
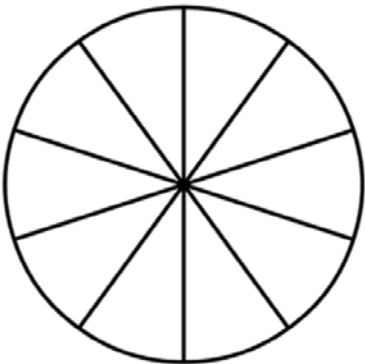
20.

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?
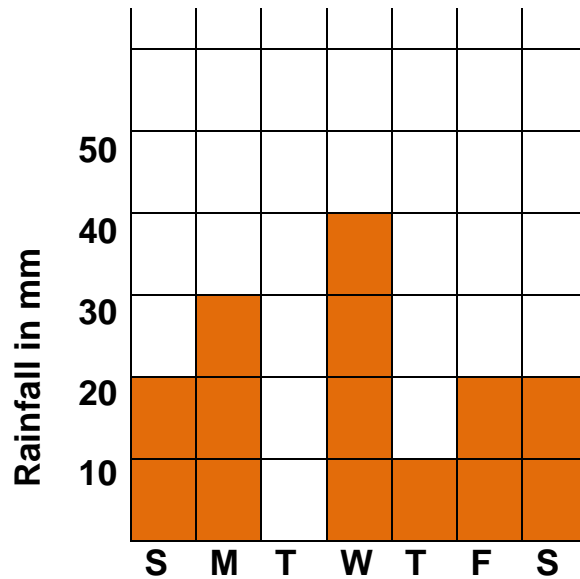
_____ fifths   (2 marks)

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?

<div align="center">_____ mm   (2 marks)</div>

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

4