

# Station 1

A group of friends went out for a meal. They each had a starter – either **SOUP** or **PRAWN COCKTAIL**, and a main course – either **SALMON** or **PIZZA**.

10 had soup,

14 had pizza,

12 had courses which began with the same letter, and

16 had at least one item which began with P.

Fill in the worksheet to show how many ordered each of the possible combinations.



# Station 2

Arrange the number cards into a 3 by 3 square grid so that every row, column and long diagonal add up to the same 'magic number'.



# Station 3

You are provided with five identical triangles, each with height equal to twice the base.

You must make a square using all five triangles. You may cut one of the triangles into two pieces but the other four must remain intact.



# Station 4

These questions are to be calculated **MENTALLY**. You are not allowed to write anything down apart from the final answer. You may discuss any of the questions.

a)  $\frac{1}{3}$  of 25% of 372

b)  $13.2 \times 6$

c)  $13574 \div 11$

d) The total surface area of a cuboid measuring 3m by 2.5m by 4m

e)  $\left(\frac{1}{3} - \frac{1}{12}\right) \times \left(2\frac{1}{4} + 3\frac{1}{3} - 1\frac{7}{12}\right)$

f)  $\frac{8.93 - 5.08}{13.1 - 12.6}$



# Station 5

Find as many numbers between 100 and 300 as you can which have only 3 and/or 5 as prime factors.



# Station 6

You are given an 8 by 8 grid with the positions of two counters already placed.

You have to place a further six counters on the grid so that:

- there is no more than one counter in any column, row or diagonal (long or short);
- the final pattern of counters exhibits rotational symmetry of order 2.



# Station 7

You must arrange the counters numbered

4, 8, 10, 15, 20 and 40

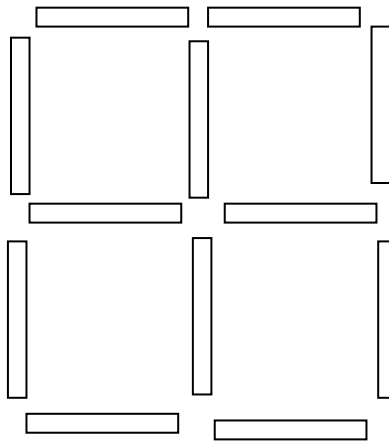
in the circles on the laminated worksheet, ensuring that the numbers in the squares give the number of common factors between the two numbers either side.



# Station 8

Starting each time with the pattern shown below, can you move...

- (a) four sticks to make eight congruent squares;
- (b) four sticks to make three congruent squares;
- (c) three sticks to make three congruent squares.



You must ensure that all 12 sticks are used to form your final pattern each time.

