



Station 1

Materials

- 4, 6, and Queen from *each suit* of a pack of cards
- Playing board or worksheet

Task

Each rectangle on the playing board represents a card from the 12 you have been given. Each card has been assigned a number:

- All clubs have been multiplied by 2
- Diamonds have been multiplied by 3
- Hearts have been multiplied by 4
- Spades have been multiplied by 6

The queen was initially given a numerical value of 12 and the other cards were assigned their face value.

No card is to be placed beside another of the same suit. If the card in the top left hand corner is not a queen, identify the three cards assigned a question mark.

Show your solution to the supervisor.



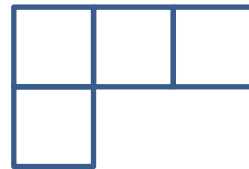
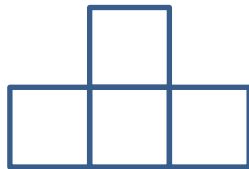
Station 2

Materials

- Squared paper

A tetromino is a shape made up of four congruent squares placed edge to edge.

e.g.



Task 1

On the squared paper provided, draw all the tetrominoes possible.

Rotations, e.g.



do not count.

Task 2

Draw all the different tetrominoes which have one coloured square and three blank squares. Rotations do not count.

Notice that these are different tetrominoes.





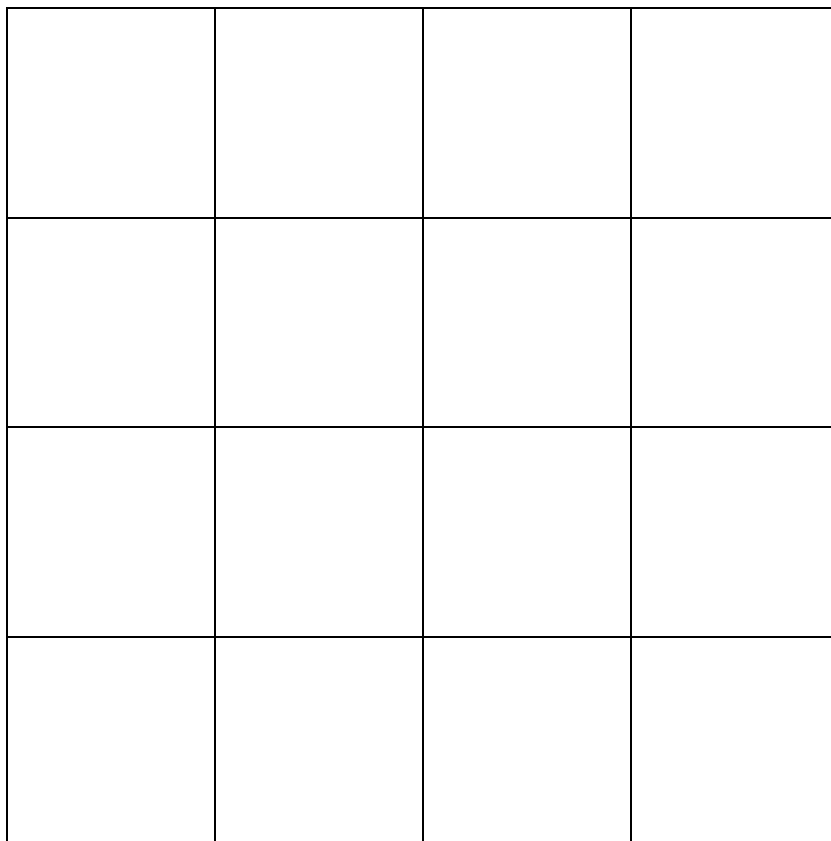
Station 3

Materials

- 16 patterned squares

Task

Fit the sixteen individual squares together to make a larger square in which the outside edges are composed of completely solid triangles and interior squares have the same shape beside adjacent edges.





Station 4



Materials

- Worksheet containing a series of arithmetical questions
- Scrap paper for working

Task

Here we have a series of questions.

The answer to each question  is used to answer the following question.

So  is the answer to the first question and is used in the second question to get .

The answer to question 2 is used in question 3, and so on.



Station 5

Materials

- Playing board or worksheet with a square array of octagons containing numbers
- 8 playing pieces numbered 1, 2, 5, 8, 10, 14, 16 & 17

Task

Each row, column and long diagonal of the octagons in the 5×5 array sums to 50.

The numbers

1, 2, 5, 8, 10, 14, 16, 17

are to be fitted into the empty octagons in the array.

Fill in the missing octagons and find the number which should replace the ?



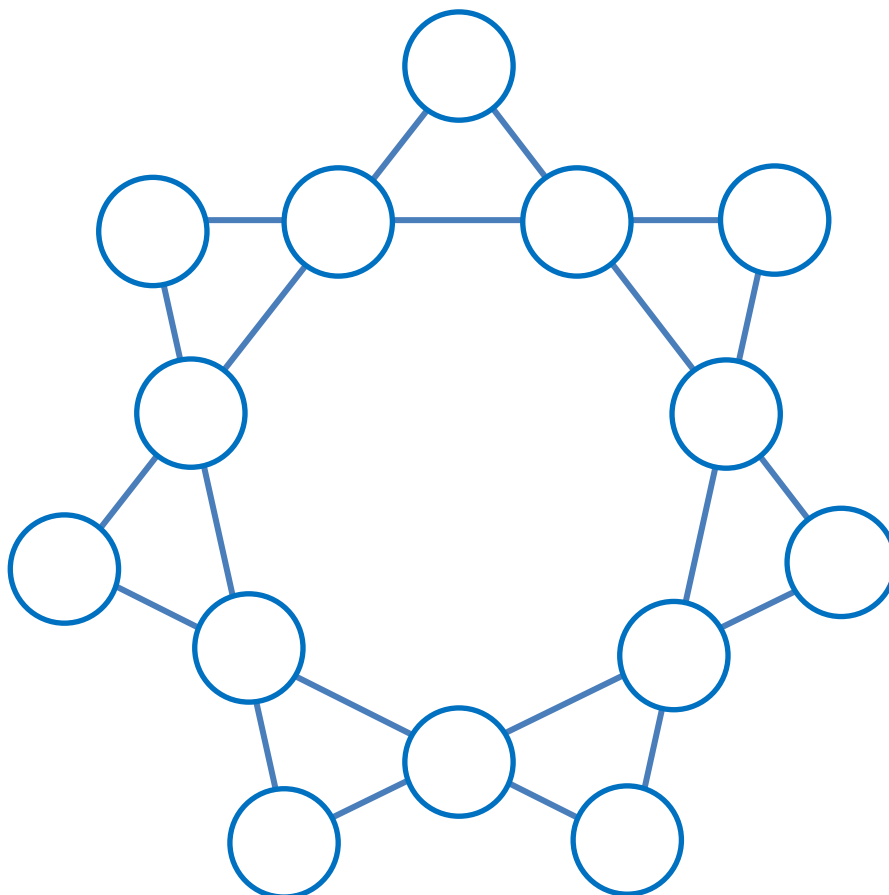
Station 6

Materials

- Playing board or worksheet
- 14 discs numbered 1 – 14

Task

Arrange the discs numbered 1 – 14 into the circles so that each straight line of 4 circles adds up to 30.





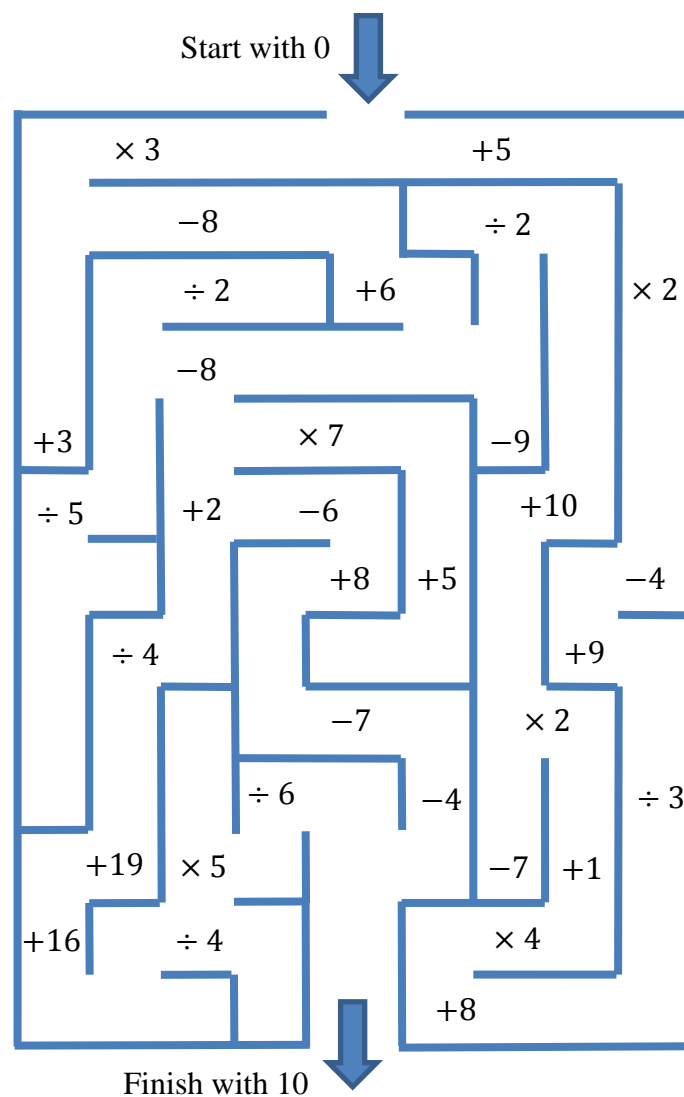
Station 7

Materials

- Maze playing board / worksheet

Task

Find a path through the maze which gives the answer of 10 when you start with 0.





Station 8

Materials

- Worksheet – grid to place numbers

Task

Place the answers to these calculations vertically in the grid on your answer sheet. The calculations are not given in any particular order; you must decide the placement of the answers.

- 21^2
- $(2^3 + 1) \times 3$
- $2 \times 11 \times 101$
- $64 + 63 \times 10^2 + 62 \times 10^4$
- $5^2 \times 10^2 - 77$
- $4 \times 1234 - 12 \times 234$
- $5^3 + 3^5$
- $7 \times 13 \times 1000 + 7 \times 103$
- $2 \times 10^3 + 3^2 \times 10^2 + 23$

The final answer is the sum of the numbers which appear across the highlighted row.