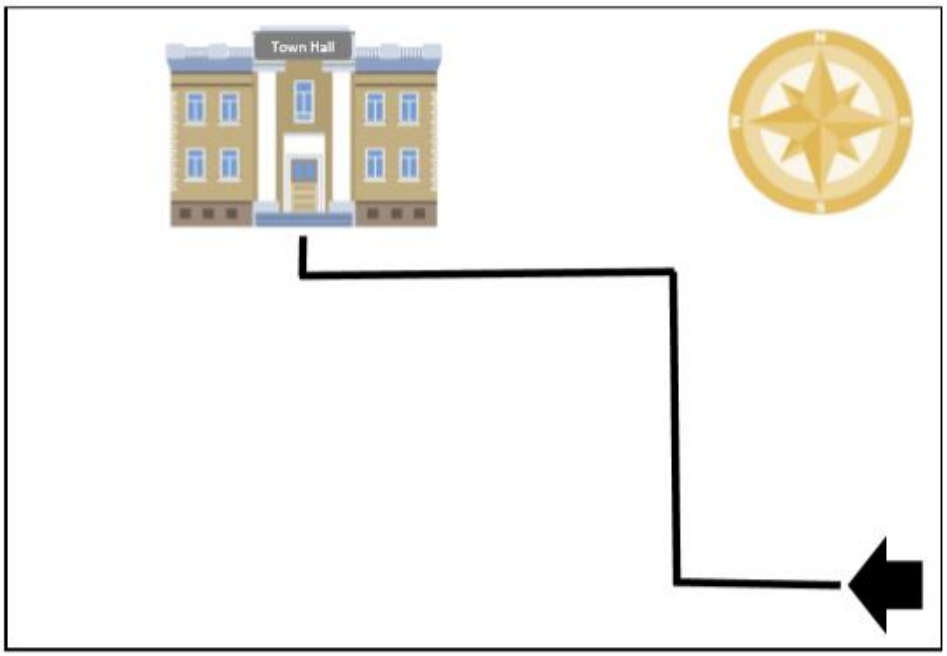
Mr Percy works for Little Acorn Council; he manages the town planning department. He works very hard to make sure that the Town is always improving.



Here is part of his planning for new roads in the town. He is writing instructions for how to get to the town hall from the starting point on the map.

1a. Circle the correct instructions.

Go straight forward.
Make a $\frac{1}{4}$ turn clockwise.
Move straight forward.
Make a $\frac{1}{4}$ turn clockwise.
Move straight forward.
Make a $\frac{3}{4}$ turn anti-clockwise.

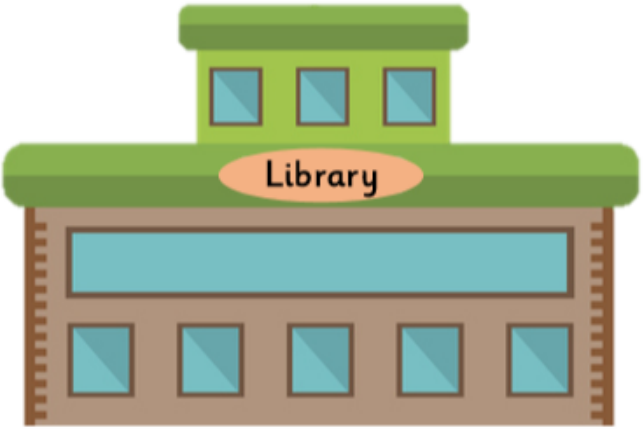
Go straight forward.
Make a $\frac{1}{4}$ turn clockwise.
Move straight forward.
Make a $\frac{1}{4}$ quarter turn anti-clockwise.
Move straight forward.
Make a $\frac{1}{4}$ turn clockwise.

1b. Could the turns be written in a different way? Explain your answer.

1c. Draw another road to the town hall that has a vertical line measuring 4cm and a horizontal line measuring 30mm. You can start anywhere on the map.

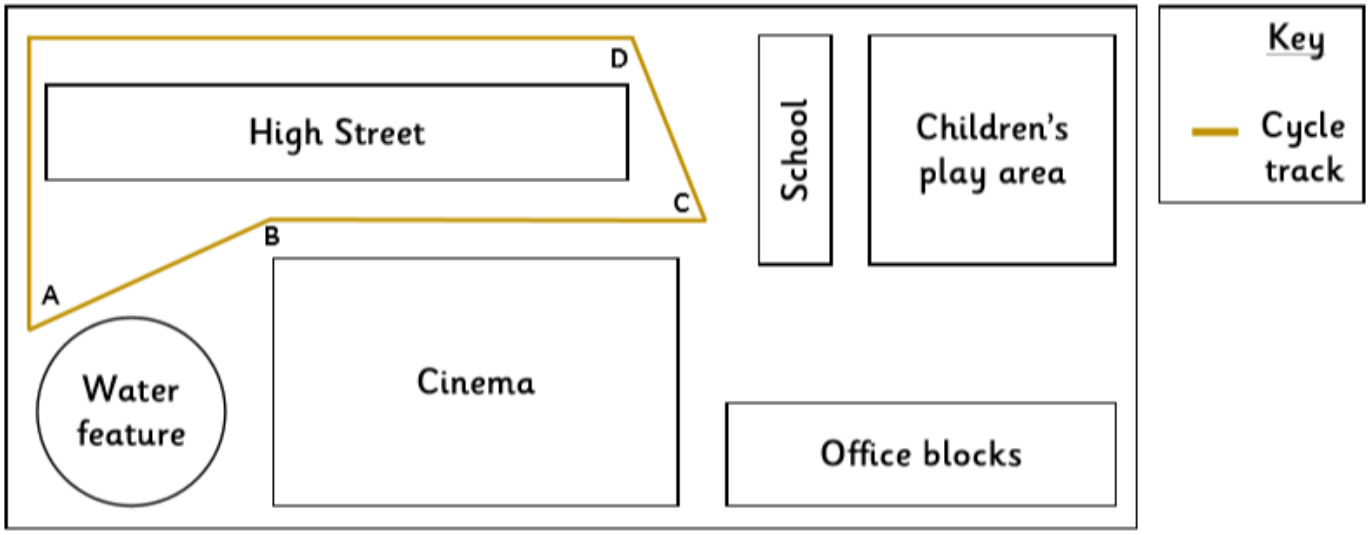
This is the new library, soon to be built in the town.

2a. How many right angles do the windows have altogether?



2b. Mr Percy has decided that he will order this type of window for the shops on the high street.
Circle all of the right angles on the window.

Mr Percy is proposing adding a cycle track into the town to promote a healthy lifestyle. Here is a bird's eye view of the cycle track route that he is planning to build.

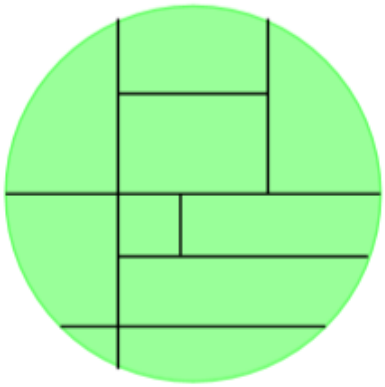


3a. Label the angles A – D on the cycle track as either 'acute' or 'obtuse'.

3b. Mr Percy says that there are no right angles on the track. Is he correct? Explain your answer.

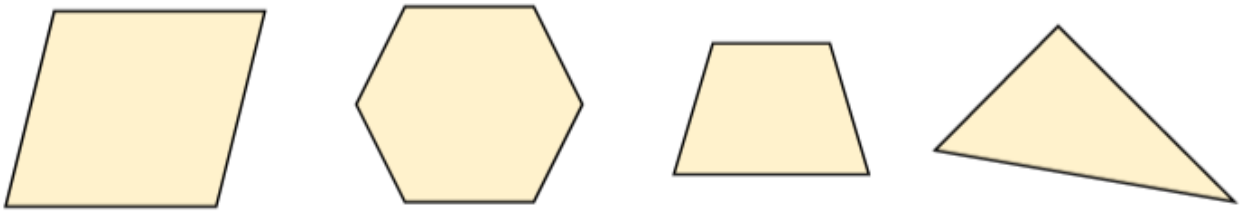
Mr Percy has asked the children of the local school to design their play area. They have been asked to design an area that has 4 vertical lines and 4 horizontal lines.

4a. Does Jamie's design match the instructions?
Explain your answer fully.

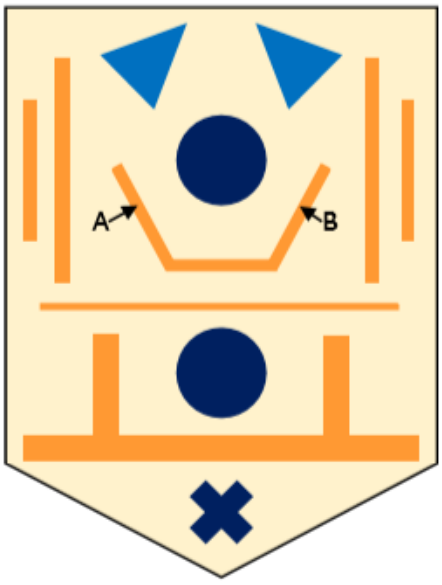


Here are some of the signs that could be used for the children's play area.
Mr Percy only wants to use the signs that have lines of symmetry.

4b. Circle the shapes that do not have any lines of symmetry.



Some of the local residents have designed a new flag for the town.
5a. Mr Percy says that lines A and B are parallel to each other. Is he correct? Explain your answer.



5b. Put a tick (✓) on 2 sets of parallel lines.
Put a cross (x) on 2 sets of perpendicular lines.

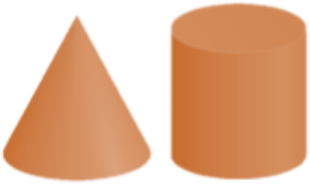
This is the shape of the flower garden in the children's play area.
Mrs Percy is explaining the shape to the gardener, Gary, so that he knows where to plant the seeds.

6. Circle the correct underlined word to describe the shape of the flower garden.

This shape is a trapezium / parallelogram.
It has four / two angles.
It has one / no right angles.
It has one / two obtuse angles.
It has two / no acute angles.
It has one / no lines of symmetry.

Mr Percy is hoping that he can build a tower next to the town hall.
He has designed the tower using two 3D shapes made out of modelling clay so that he can show the architect his design.

7. Fill in the blanks in the boxes below to describe the properties of the two 3D shapes.

This shape is a _____. It has _____ face(s). It has _____ vertices/vertex. It has _____ edge(s).		This shape is a _____. It has _____ face(s). It has _____vertices/vertex. It has _____ edge(s).

8a. Alan, the architect, has been asked to make a 3D model of the school. He has 4 long straws, 8 short straws and 8 balls of dough.
What 3D shape will he make?

8b. Can you prove it? Ask an adult for the equipment and try to make the shape.
Good Luck!