

The Work of a Medieval Mason: Group leader notes

This exercise is designed as an introduction to the techniques of classical geometry. It is also designed to give students and insight into the medieval design process, and will require creative thinking and practical experimentation to solve.

The objective is to create three accurate geometric shapes using only a compass and a circle as a starting point.

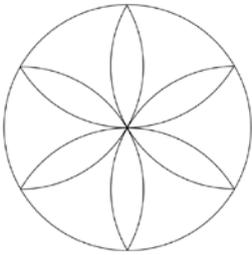
1. A rectangle, with each angle being precisely 90 degree.
2. A right-angle triangle.
3. An accurate diamond.

Required Materials

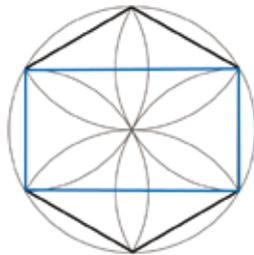
Each group/student will require a pencil, a pair of compasses, and a sheet of paper.

Process

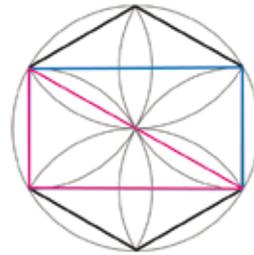
Although we have given the students the basic starting point, and clues in the illustrations, they may require additional hints and help. The exact process for each shape is set out below.



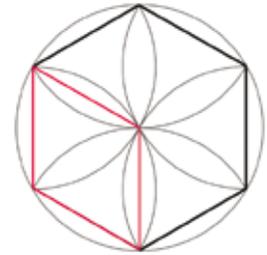
1. By following the stages on the work-sheet you should end up with this design. Commonly called a 'hexfoil'.



2. Draw straight lines between the four outer points and you have a perfect rectangle.



3. Draw a straight line diagonally across the rectangle - and you have a perfect right-angle triangle.



4. Draw straight lines between the centre point and three adjacent points on the outer circle - and you have a perfect diamond.

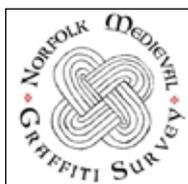
Easy when you know how! And from that simple compass drawn circle you can derive all the basic geometry needed to build a church or a cathedral.

Further Discussions/Research

1. Discuss the uses of geometry in the medieval and modern world. Why might the skills of a medieval mason have appeared almost 'magical' to his contemporaries?
2. Discuss the accident of William of Sens at Canterbury. What would life have been like for a disabled or paralysed person in the Middle Ages?
3. Research the work of medieval stone masons. Where they worked, how they designed buildings, and how they were organised. Some useful links are listed below.

BBC History http://www.bbc.co.uk/history/british/middle_ages/architecture_medmason_01.shtml

<http://www.historylearningsite.co.uk/medieval-england/medieval-masons/>



Further resources, including detailed interpretation of medieval church graffiti, can be found on the project website.

www.medieval-graffiti.co.uk