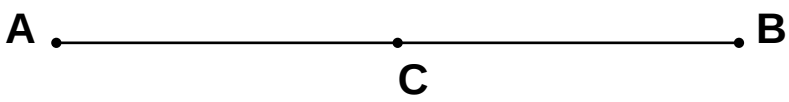
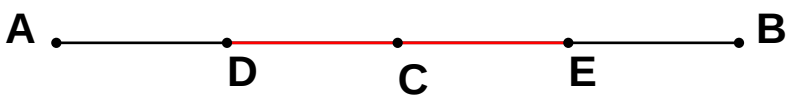
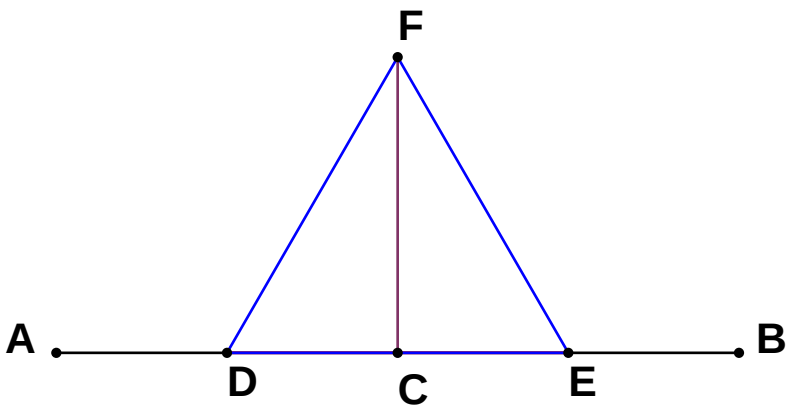


Given line AB and point C, we want to draw a line at right angles to AB from point C

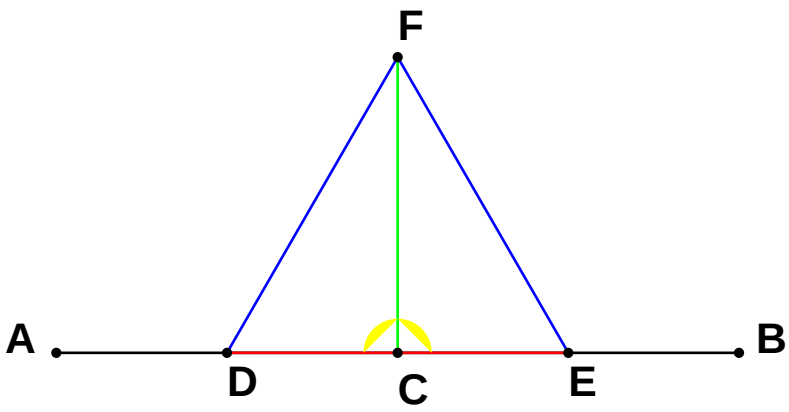


Choose D on line AB, and set EC equal to DE

angles to AB from point C

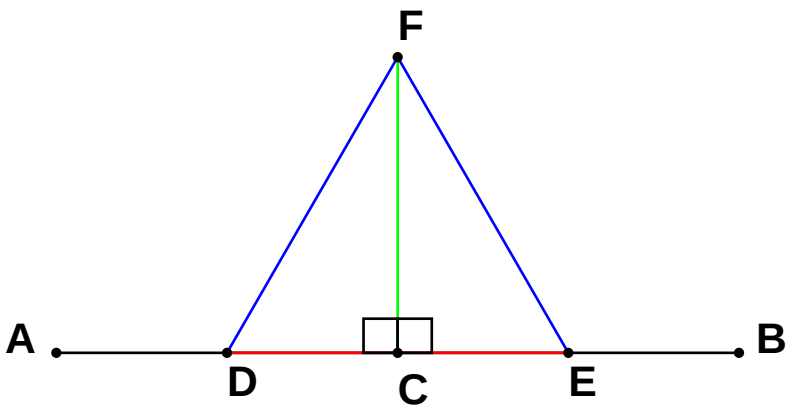


Construct the equilateral triangle FDE on DE, and join CF.



Therefore the angle DCF equals the angle ECF,

and they are adjacent angles



Since a straight line standing on a straight line makes the adjacent angles equal to one another, each of the equal angles is right. Therefore each of the angles DCF and FCE are right angles, and CF is at a right angle to line AB.