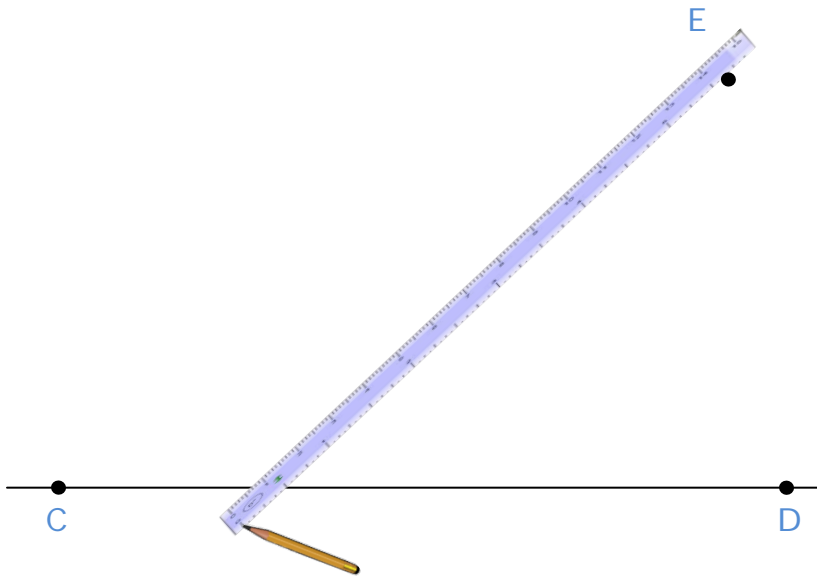
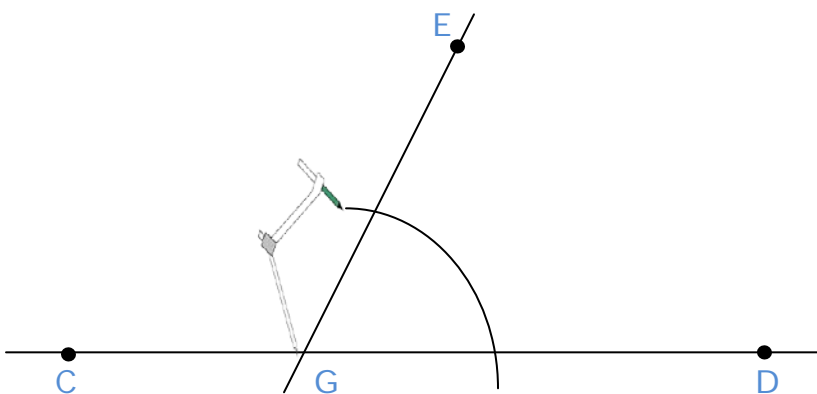


Making Perpendicular and Parallel Lines - Guided Lesson Explanation**Explanation#1**

1. Draw a transversal through E. To do this, draw a line through line CD. This will form a new angle; we'll call it point G. Don't worry about the size of the angle that you have created. Use a ruler to draw the line (EG).



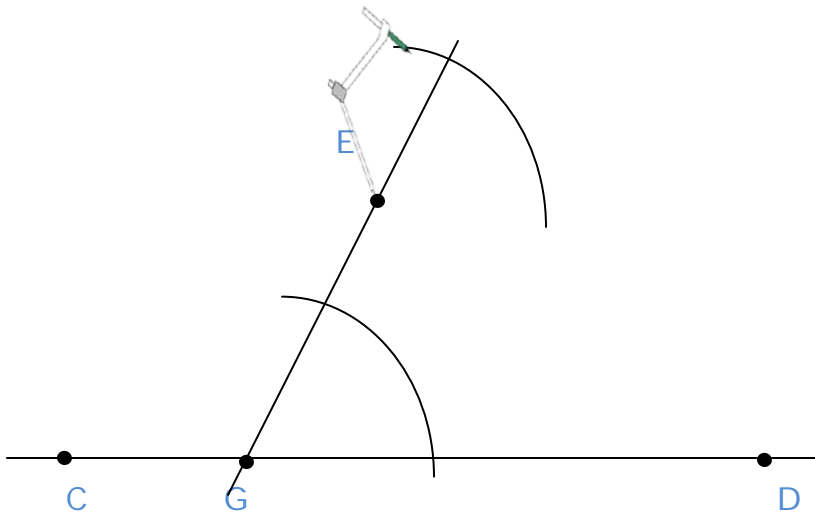
2. Set the compass to a distance that is about half the length of line EG. Place the point of the compass on point G, and draw an arc through the lines.



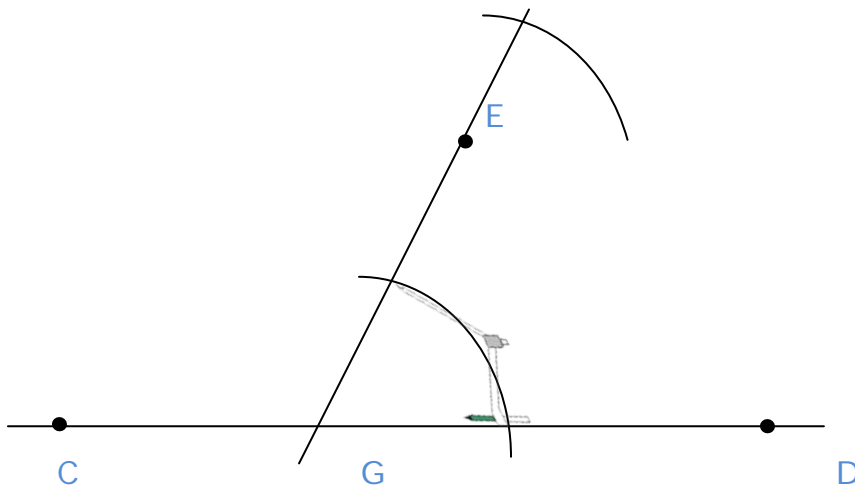
Name _____

Date _____

3. Keep the compass at the fixed distance. Move the compass point to point E and draw an arc on the continuing line past E on line EG.



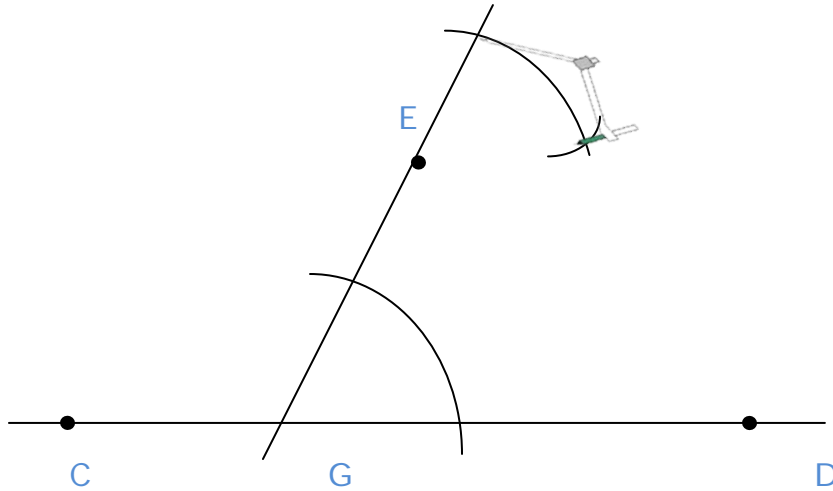
4. Adjust the compass width. We want it set to be the exact distance of the lower arc from line to line, as you see below.



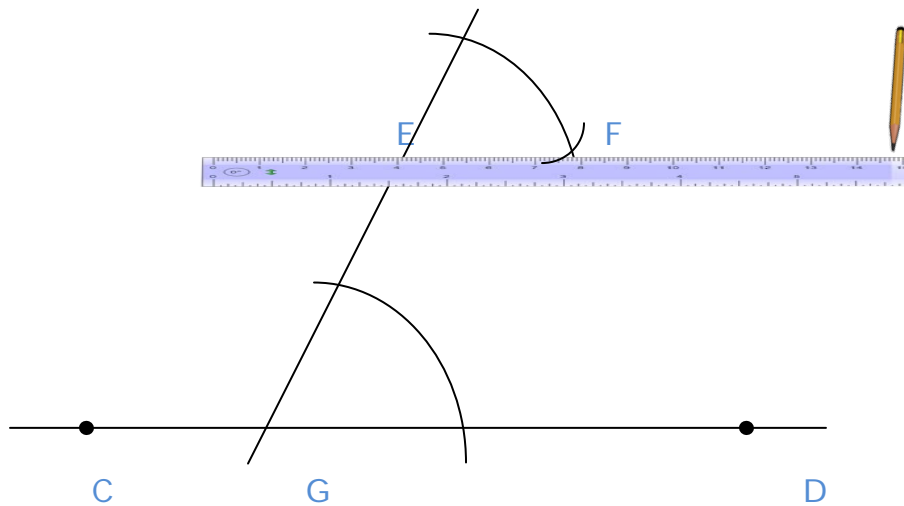
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5. Move the compass point to when the upper arc touches the transversal and draw an arc on that arc, forming point F.



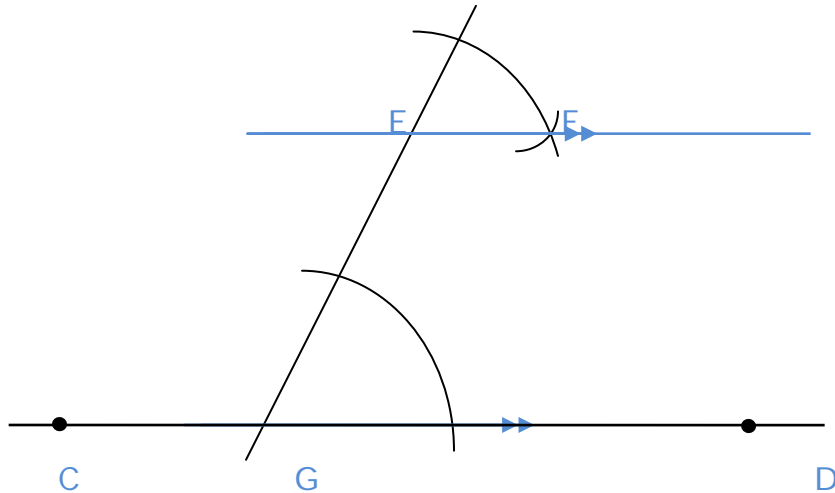
6. Draw a straight line through points E and F and extend the line.



Name _____

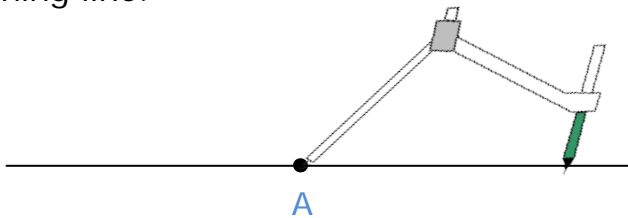
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Line EF is parallel to the line CD.

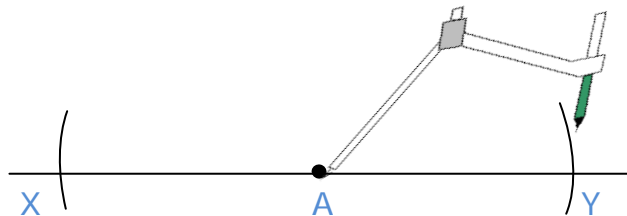


Explanation #2

1. Place the compass point on point A. Set it to a width that is about $\frac{2}{3}$ the remaining line.



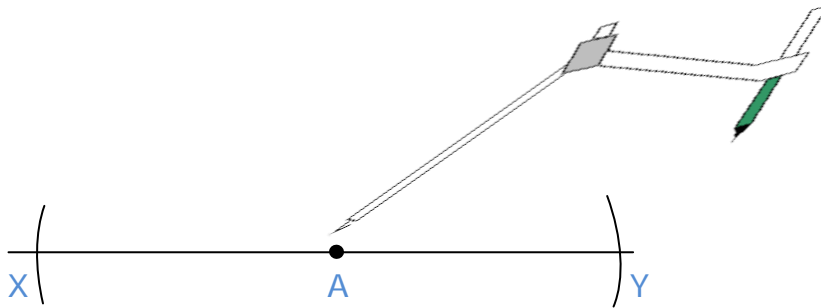
2. Mark an arc on both sides of the line, forming the points X and Y. X and Y are an equal distance from A.



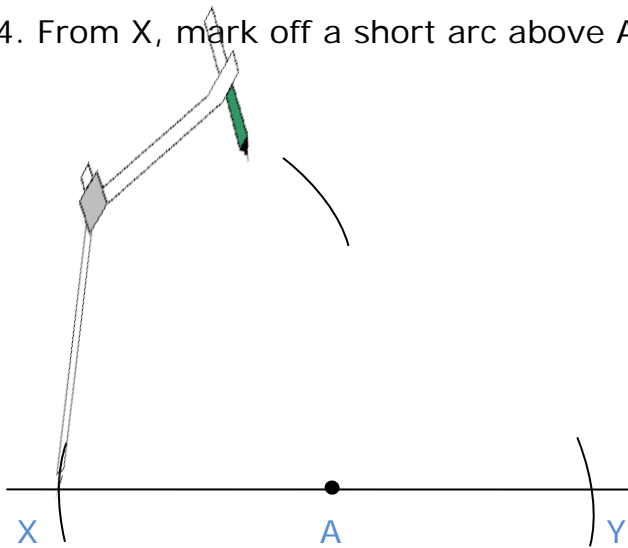
Name _____

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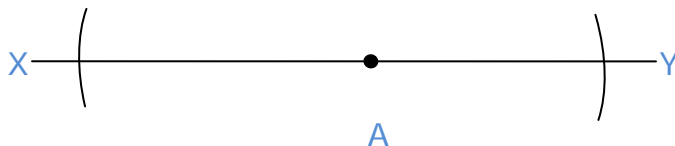
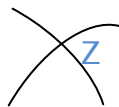
3. Double the length of the compass. This is an approximate distance.



4. From X, mark off a short arc above A.



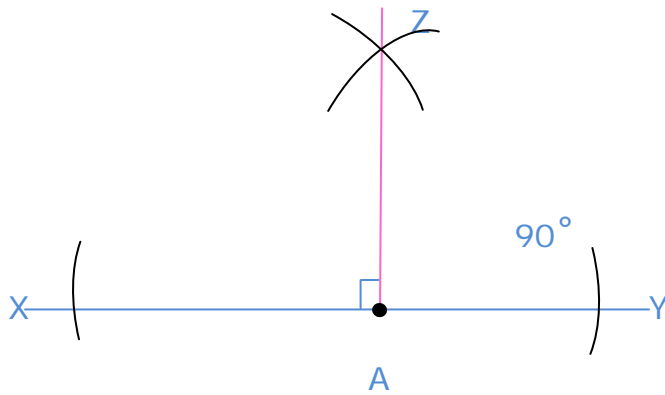
5. Place the compass point at point Y and mark a point so that the two arcs cross each other, creating the point Z.



Name _____

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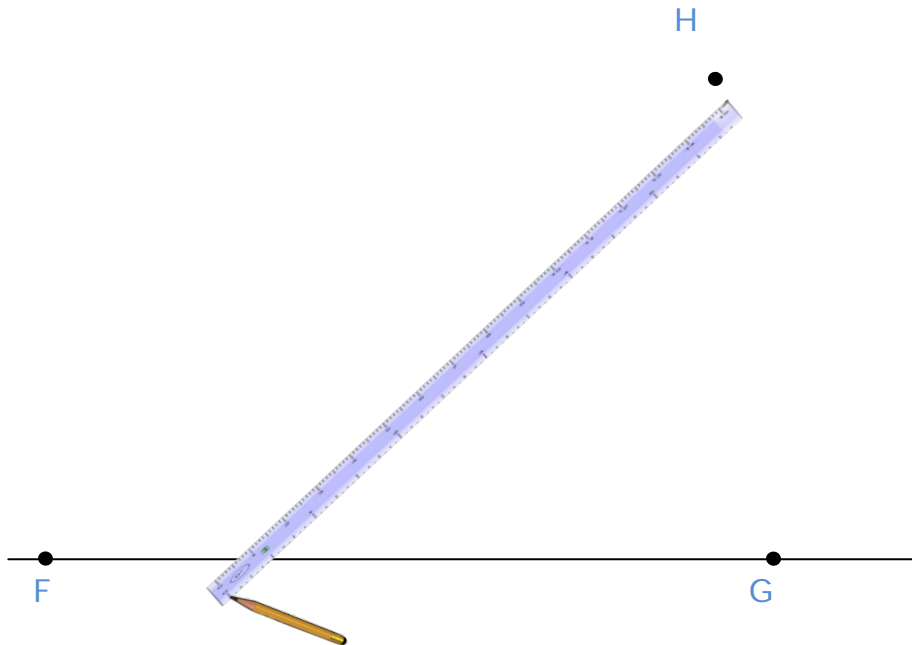
6. Find a ruler and draw a line from A to where the arcs cross.



7. Done. The line just drawn is a perpendicular to the line at A

Explanation#3

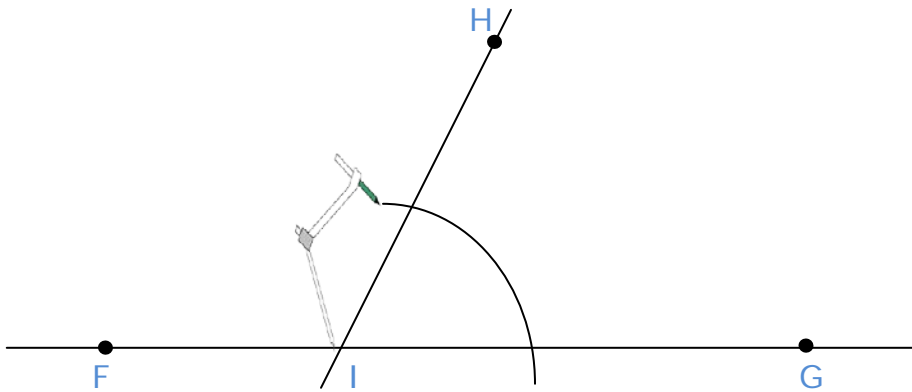
1) Draw a transversal line through H and across the line FG, This will form a new angle. Point I is where the line intersects the line FG.



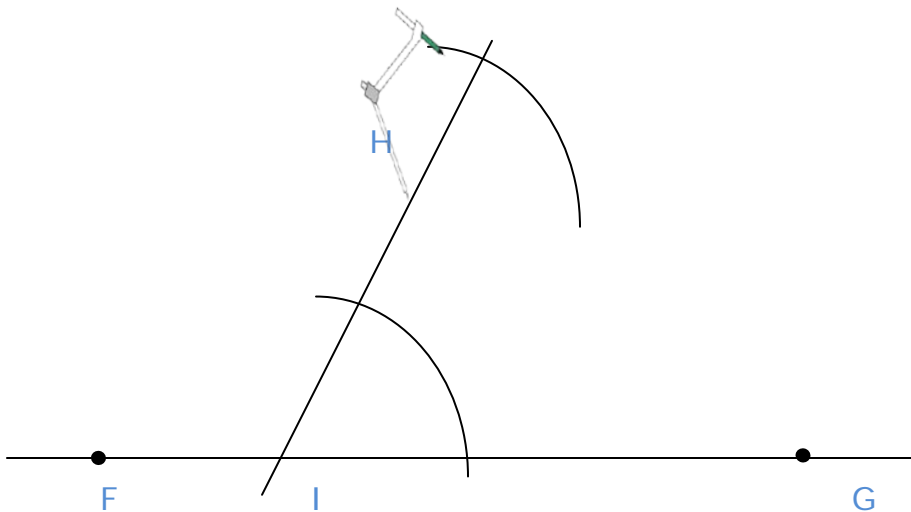
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2. Place the compass point on point I. Set the compass to a distance half that of line IH and draw an arc across both lines (IH and FG).



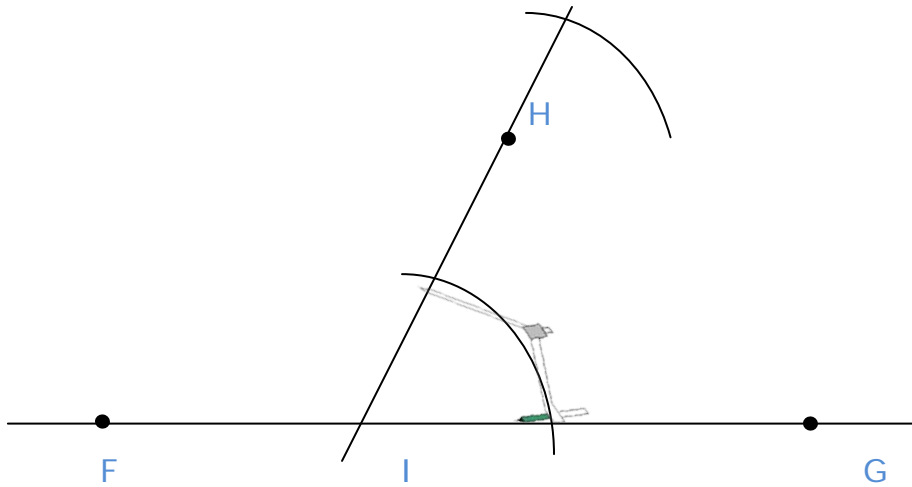
3. Move the compass point to point H and draw another arc above line IH.



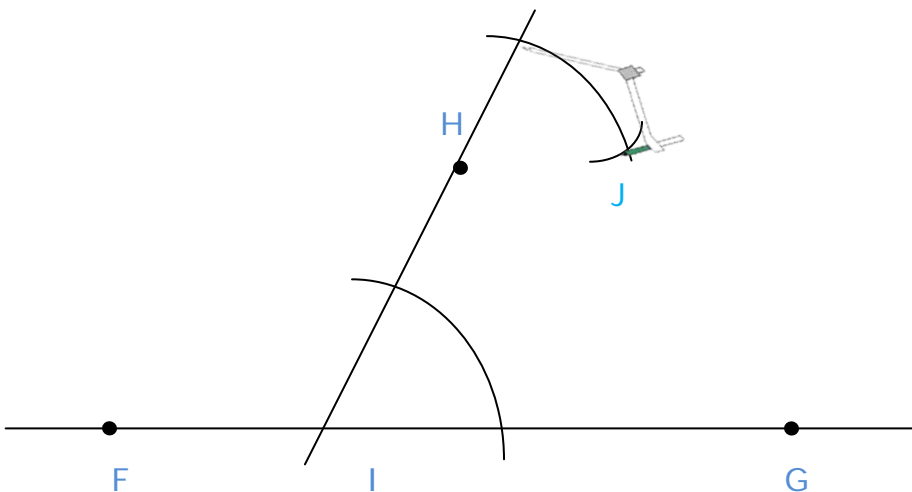
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4. Time reset the size of the compass. Make it the exact distance of where that arc hits the two lines.



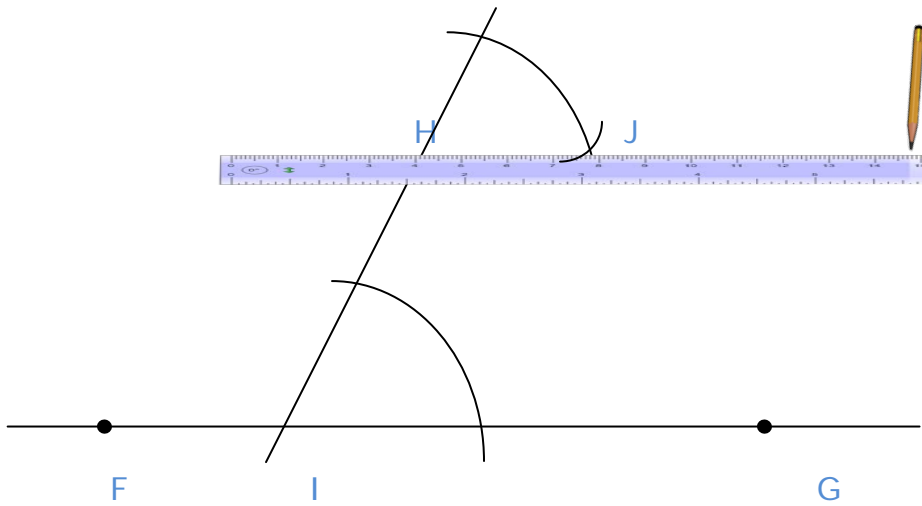
5. Move the compass point to where the upper arc touches line IH. Draw an arc and this will form point J.



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6. Draw a straight line through points H and J.



Done The line HJ is parallel to the line FG

