

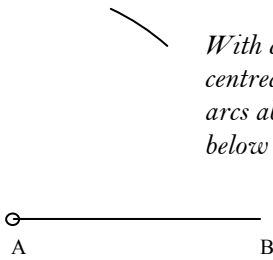
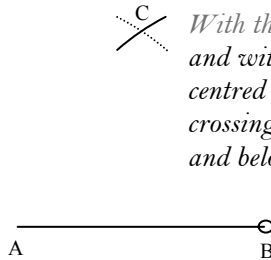
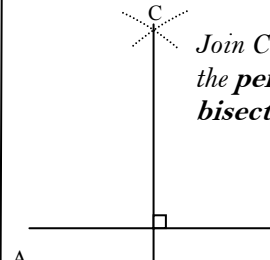
Draw Basic Constructions – SS12

Perpendicular Bisector, Angle Bisector and Equilateral Triangle

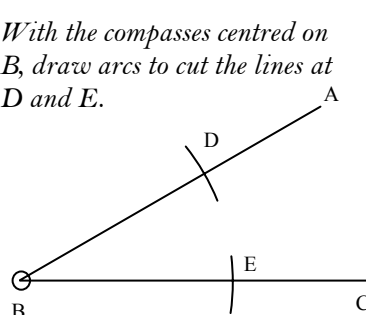
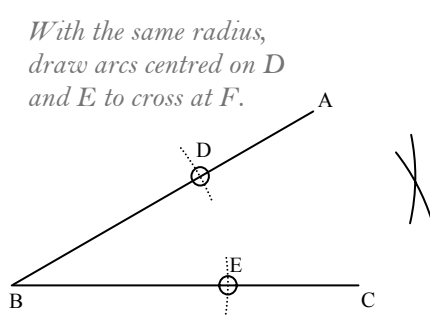
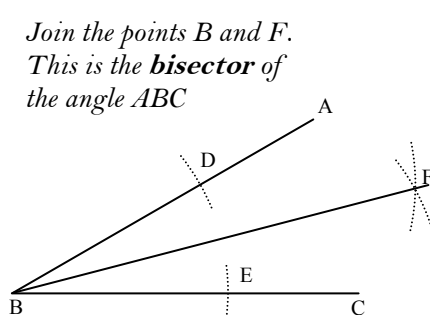
Learn the following three key constructions using a pair of compasses, a straight edge and a pencil.

Your Turn!! a) Copy the 3 key constructions as shown.

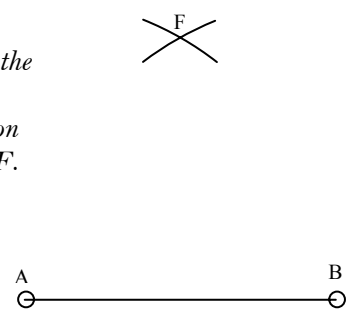
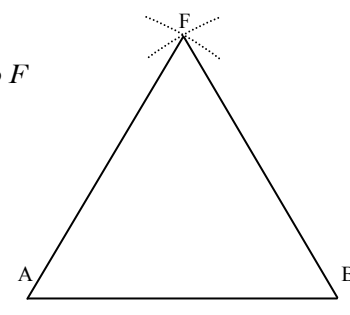
Perpendicular bisector of a line AB

<p style="text-align: center;"><i>With compasses centred at A, draw arcs above and below the line.</i></p> 	<p style="text-align: center;"><i>With the same radius, and with compasses centred at B, draw crossing arcs above and below the line.</i></p> 	<p style="text-align: center;"><i>Join C to D. This is the perpendicular bisector of AB.</i></p> 
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Angle bisector of $\angle ABC$

<p style="text-align: center;"><i>With the compasses centred on B, draw arcs to cut the lines at D and E.</i></p> 	<p style="text-align: center;"><i>With the same radius, draw arcs centred on D and E to cross at F.</i></p> 	<p style="text-align: center;"><i>Join the points B and F. This is the bisector of the angle ABC</i></p> 
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Equilateral Triangle

<p style="text-align: center;"><i>Set the compasses to the same length as AB. Draw arcs, centred on A and B to cross at F.</i></p> 	<p style="text-align: center;"><i>Join the points A to F and B to F.</i></p> 
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Constructing Angles of 90° , 60° , 45° or 30°

Notice how the perpendicular construction can be used to construct an angle of 90° . The equilateral triangle construction can be used to make an angle of 60° . By bisection of $90^\circ/60^\circ$ you can construct angles of $45^\circ/30^\circ$.

Your Turn!!

- b) Use your right-angle you constructed from a), and bisect this to make an angle of 45° .
If you want you could bisect the 45° to make an angle of 22.5° .

RAPID 'ACID' TEST – Blank out the page above before answering these!

- Construct an angle of 30° .