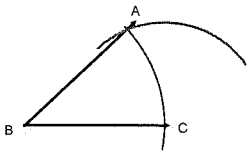
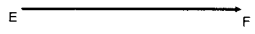
How to Copy an Angle using a Compass and Ruler

Create ∠ DEF ≅ to ∠ABC

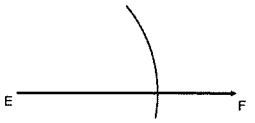


Steps

1-Draw a ray labelled EF



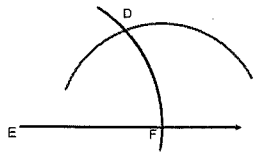
2- use your compass to measure the length of BC and then make an arc mark off the length on EF. This intersection point becomes F



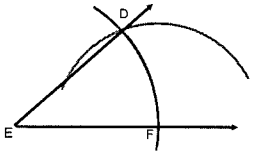
Steps

3-use your compass to measure the distance between points A and C on the arc that you drew.

4-Keep your compass set at the same distance and place the compass tip at point F. Make an arc. The intersection point of the two arcs is point D.

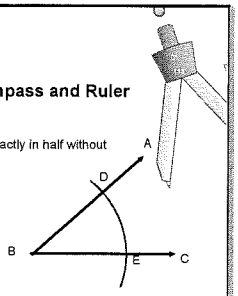


5- Join Point D to Point E to create ∠ DEF



How to Bisect an Angle using a Compass and Ruler

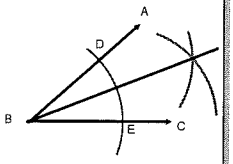
Bisecting an angle using the geometry tools cuts an angle exactly in half without having to measure or calculate



Steps

1-From Point B create an arc of any size that crosses both arms of the angle. Label the points of intersection as Point D and E.

2- Place the point of your compass at Point E and open the compass to a distance of more than half the distance between D and E. Make an arc.



3-Keeping your compass open the same distance place the point of the compass at Point D and make an arc. Make sure it crosses the first one.

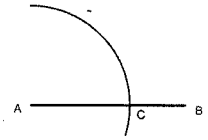
4-Join the point of intersection of the two arcs back to Point B to create 2 equal angles.
** you can verify if you are correct using a protractor.

How to Create a 60° Angle using a Compass and Ruler

Steps

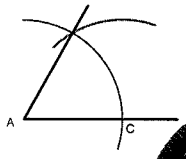
1-Draw Line Segment AB

2-Place your compass on Point A and make an arc. Label the point of intersection of the arc and the line as C



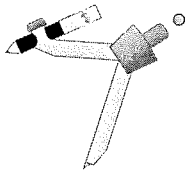
3-Keep your compass the same width and make an arc from C. Make sure that it intersects the arc you just made.

4-Join the point of intersection of the 2 arcs back to the point A. This will create a 60° angle

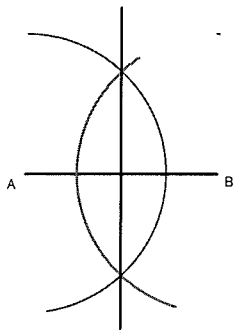


** you can verify if you are correct using a protractor.

How to Create a 90° Angle (Right Bisector) using a Compass and Ruler



A right bisector will cut a line in half at a 90° angle.



Steps

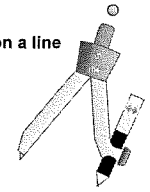
1-From A, set your compass to a distance of over half the line length, and draw an arc above and below the line.

2-Keep your compass at the same width and repeat step 1 but from point B

3-Draw a line using a ruler to connect the points of intersection of the arcs.

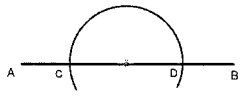
** you can verify if you are correct using a protractor.

How to Create a 90° Angle from a point on a line using a Compass and Ruler



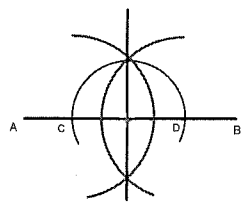
Steps

1-From the Point on AB, make an arc that crosses line AB in 2 places.



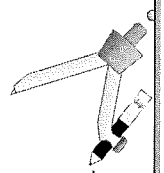
2- From the point of intersection c open your compass to more than half the distance between C and D. Make arcs that go above and below the line.

3- Join the two points of intersections of the arcs through the points using a ruler



** you can verify if you are correct using a protractor.

How to Create a 90° Angle from a point off a line using a Compass and Ruler



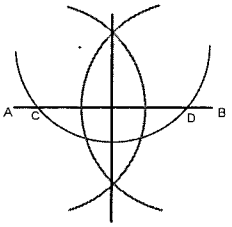
Steps

1-From the Point, make an arc that crosses line AB in 2 places.

2- From the point of intersection c open your compass to more than half the distance between C and D. Make arcs that go above and below the line.

3- Repeat Step 2 from Point D

4- Join the two points of intersections of the arcs through the points using a ruler



** you can verify if you are correct using a protractor.