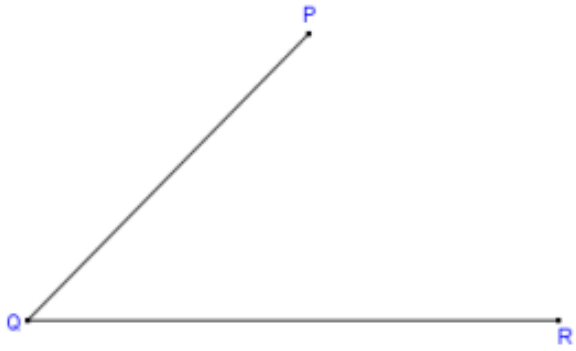
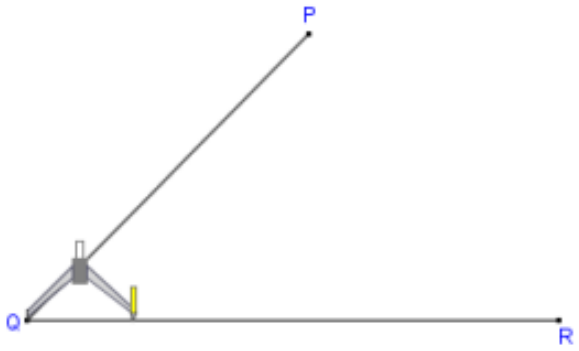
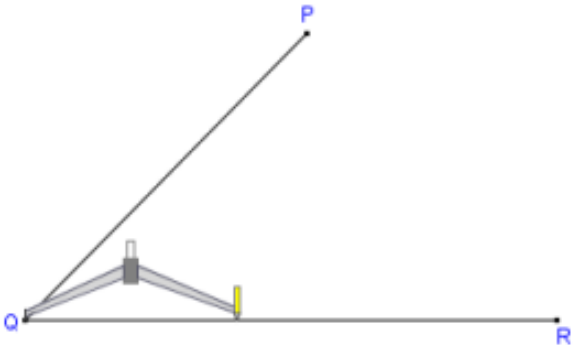
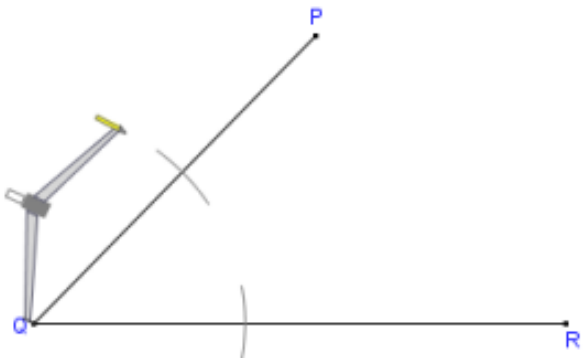
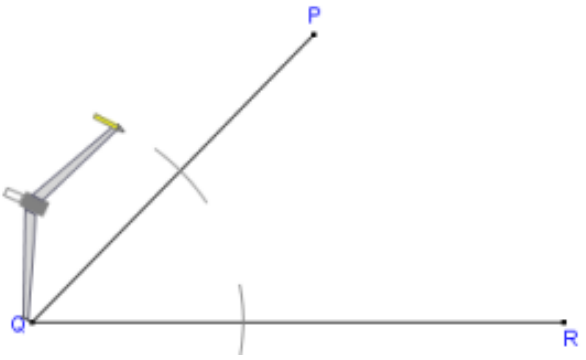
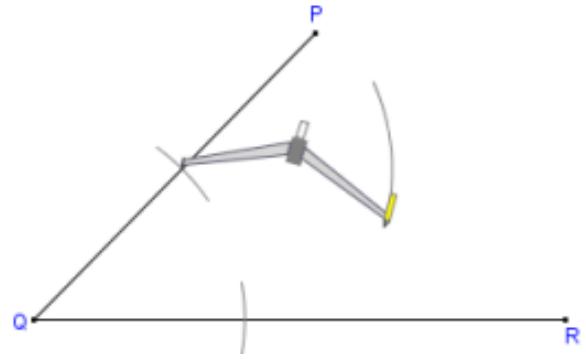
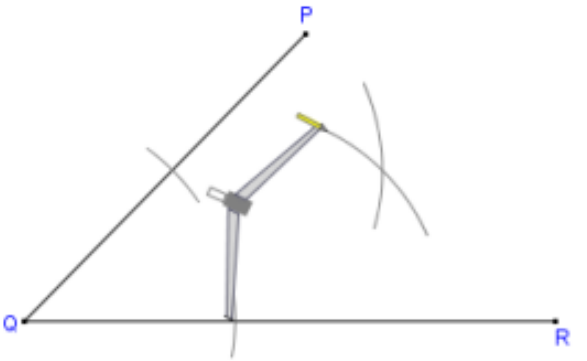
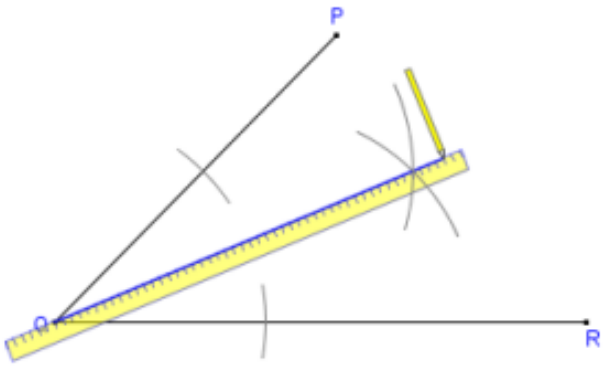
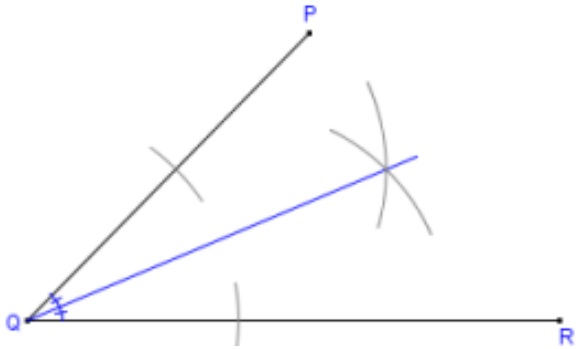
Bisecting an angle

After doing this	Your work should look like this
Start with angle PQR that we will bisect.	
1. Place the compasses' point on the angle's vertex Q.	
2. Adjust the compasses to a medium wide setting. The exact width is not important.	

After doing this	Your work should look like this
3. Without changing the compasses' width, draw an arc across each leg of the angle.	
4. The compasses' width can be changed here if desired. Recommended: leave it the same.	
5. Place the compasses on the point where one arc crosses a leg and draw an arc in the interior of the angle.	
6. Without changing the compasses setting repeat for the other leg so that the two arcs cross.	

After doing this	Your work should look like this
7. Using a straightedge or ruler, draw a line from the vertex to the point where the arcs cross	
Done. This is the bisector of the angle ∠PQR.	

Other constructions pages on this site

List of printable constructions worksheets

Lines

Introduction to constructions

Copy a line segment

Sum of n line segments

Difference of two line segments

Perpendicular bisector of a line segment

Perpendicular at a point on a line

Perpendicular from a line through a point

Perpendicular from endpoint of a ray

Divide a segment into n equal parts

Parallel line through a point (angle copy)

Parallel line through a point (rhombus)

Parallel line through a point (translation)

Angles

Bisecting an angle

Copy an angle

Construct a 30° angle

Construct a 45° angle

Construct a 60° angle

Construct a 90° angle (right angle)

Sum of n angles

Difference of two angles

Supplementary angle

Complementary angle

Constructing 75° 105° 120° 135° 150° angles and more

Triangles

Copy a triangle

Isosceles triangle, given base and side

Isosceles triangle, given base and altitude

Isosceles triangle, given leg and apex angle

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30-60-90 triangle, given the hypotenuse

Triangle, given 3 sides (sss)

Triangle, given one side and adjacent angles (asa)

Triangle, given two angles and non-included side (aas)

Triangle, given two sides and included angle (sas)

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Triangle midsegment

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Triangle altitude (outside case)

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Right Triangle, given one leg and hypotenuse (HL)

Right Triangle, given both legs (LL)

Right Triangle, given hypotenuse and one angle (HA)

Right Triangle, given one leg and one angle (LA)

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Triangle incenter

Triangle circumcenter

Triangle orthocenter

Triangle centroid

Circles, Arcs and Ellipses

Finding the center of a circle

Circle given 3 points

Tangent at a point on the circle

Tangents through an external point

Tangents to two circles (external)

Tangents to two circles (internal)

Incircle of a triangle

Focus points of a given ellipse

Circumcircle of a triangle

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Square inscribed in a circle

Hexagon given one side

Hexagon inscribed in a given circle

Pentagon inscribed in a given circle

Non-Euclidean constructions

Construct an ellipse with string and pins

Find the center of a circle with any right-angled object