

**In high school geometry, they told us that Euclid proved
it is impossible to trisect an angle
What if Euclid was wrong?**

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For more than 2,000 years, geometry instructors worldwide convinced students that it is impossible to trisect an angle with only a compass and straightedge. You can bisect an angle, but not trisect. Generations of students have played with the problem attempting to prove Euclid was wrong, but no one has succeeded, until now.

My friend Milton Mintz, an amateur geometer, has explored this issue for more than 30 years until he finally presented his solution, which you can review at www.euclidchallenge.org I should tell you that professional geometers have become somewhat exasperated with all the amateur solutions offered throughout the years. "Stop it!" one professional mathematician said, "It is now a well-established proof that trisecting an angle is impossible."

I worked with my friend, Milt, to write a script for a documentary film showing his proposed solution for viewing on PBS, but I am not convinced that he has the answer, which is rather complex. I like Einstein's comment that, "If your scientific model is complex, so complex that you cannot explain it to a child, it is probably false."

My alternate solution requires only simple steps that even a child can understand.

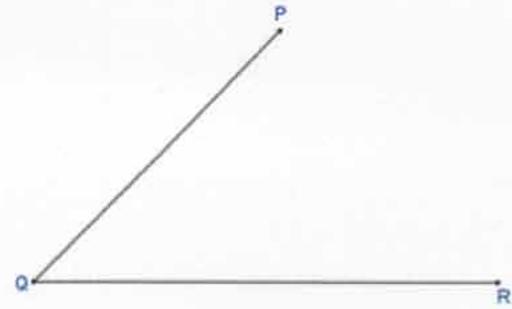
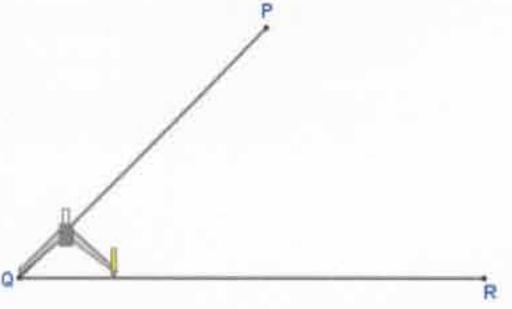
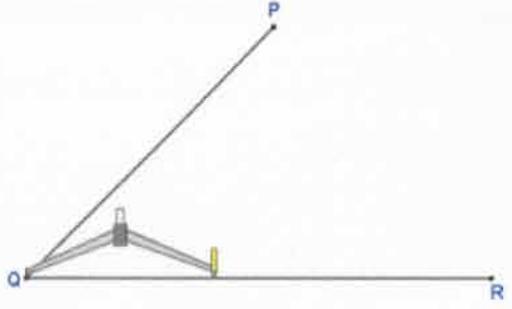
First, I could start with an explanation of how to bisect an angle, but my explanation would be more complex than the actual procedure, which you can see demonstrated in two minutes on your computer. Go to: *How to bisect an angle*. Then click on: *Videos for how to bisect an angle*.

Math Open Reference

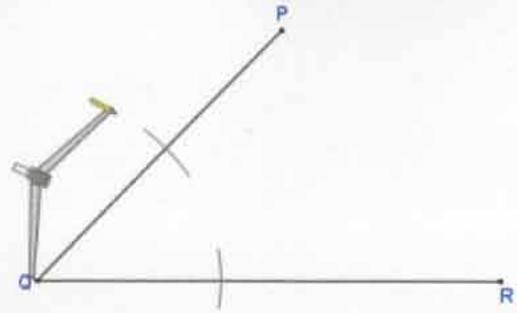
Bisect an angle

Printable instructions worksheet.

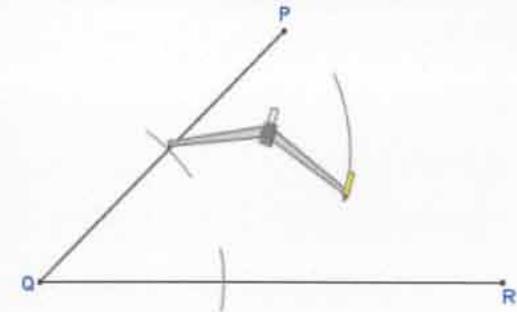
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After doing this	Your work should look like this
Start with angle PQR that we will bisect.	
1. Place the compass point on the angle's vertex Q.	
2. Adjust the compass to a medium wide setting. The exact width is not important.	
3. Without changing the compass width, draw an arc across each leg of the angle.	

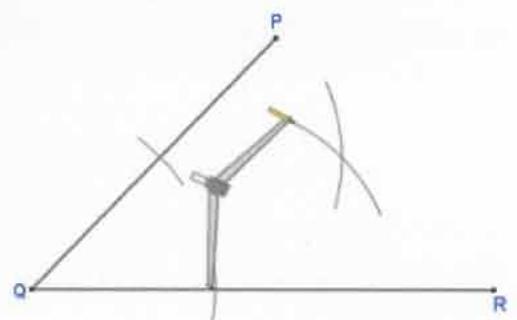
4. The compass width can be changed here if desired. Recommended: leave it the same.



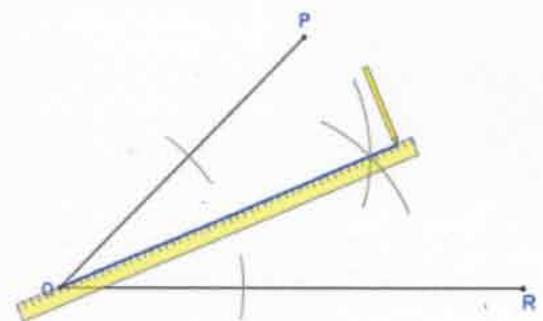
5. Place the compass on the point where one arc crosses a leg and draw an arc in the interior of the angle.



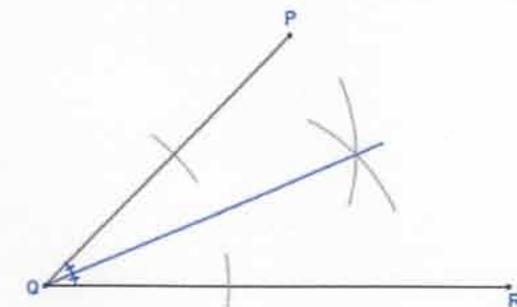
6. Without changing the compass setting repeat for the other leg so that the two arcs cross.



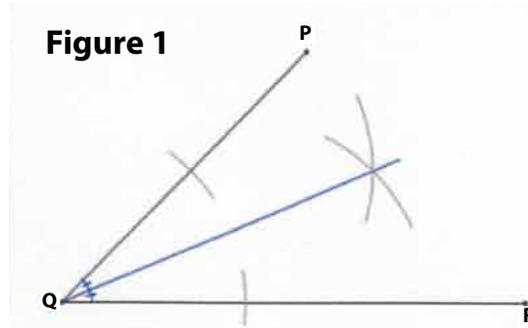
7. Using a straightedge or ruler, draw a line from the vertex to the point where the arcs cross.



Done. This is the bisector of the angle $\angle PQR$.



We have successfully bisected an angle.

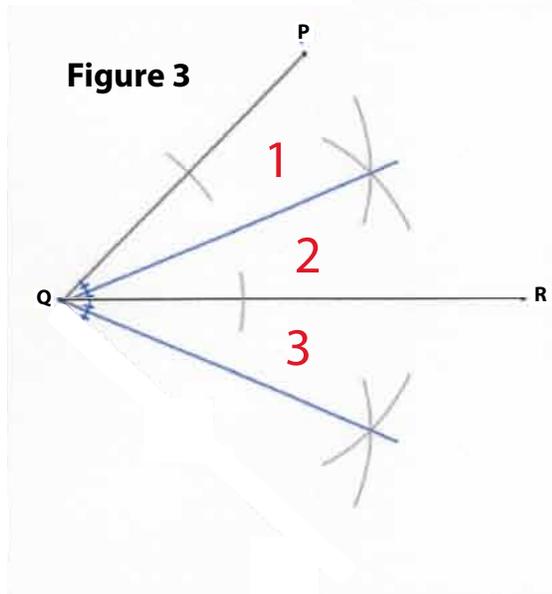
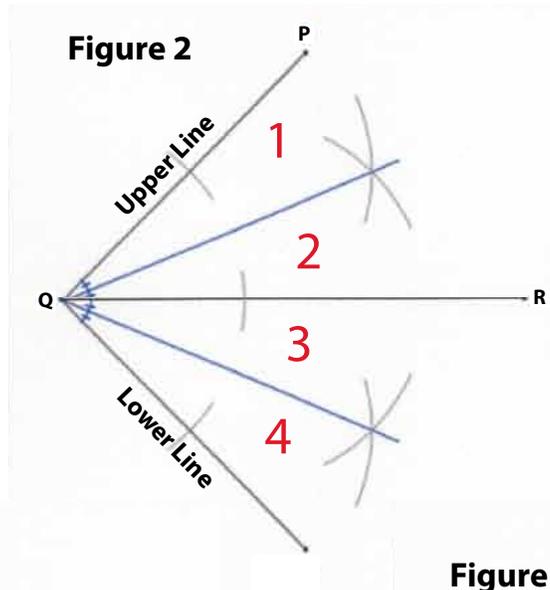


Here is my suggestion on how to trisect the angle.

First, we duplicate our bisected angle in **Figure 1**.

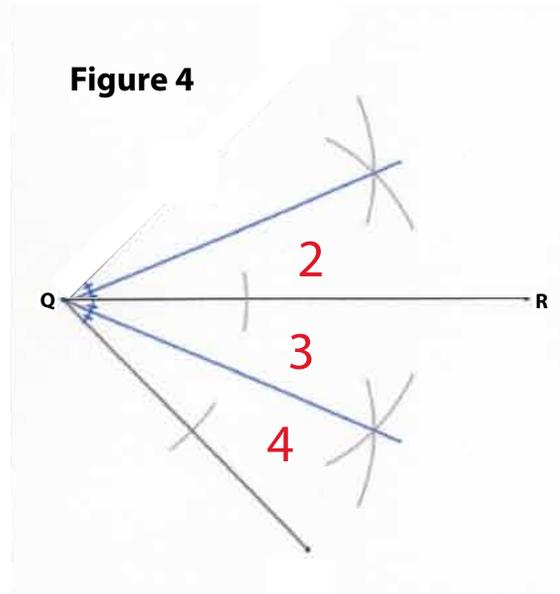
Next, we flip it vertically on the "Q-R" axis.

Now we have four equal angles: **1, 2, 3, 4**



Now erase the lower line in **Figure 2**.
Voilà!

We have three equal angles.



It will also work if you erase the upper line in **Figure 2**. Voilà!

We have three equal angles.

Invitation to students

This is so easy, it may be flawed! If you can find a flaw, please let me know. You can contact me at tprworld@aol.com