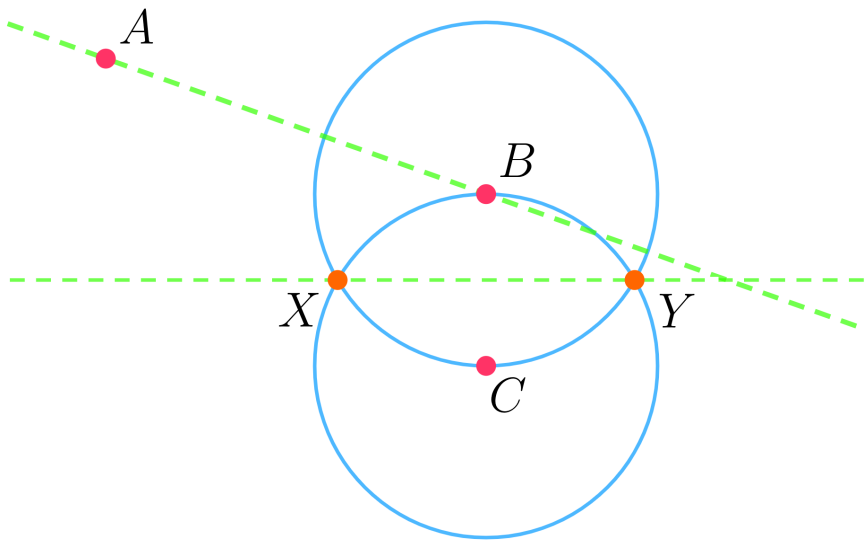
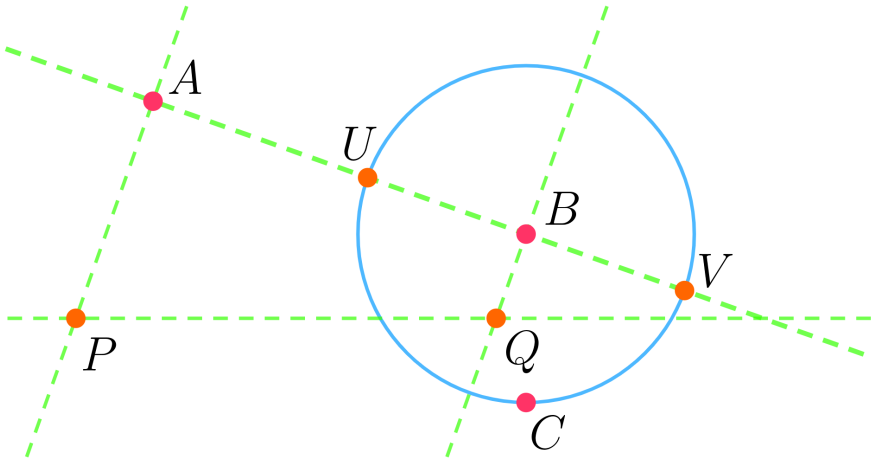
Tale of Two Tangents: Solution

Label the three points given A, B, C. Draw a circle around B through C and a circle around C through B, then label their points of intersection X, Y. Draw a line through X and Y. This is the *perpendicular bisector* of B, C.



The circle around B intersects the line through A, B twice, call these points U, V. We know how to construct perpendicular bisectors now, so construct one through B. Do the same process with A as well.



These bisectors intersect the other line at points P, Q. Our final answer is the circle centered at P through A and the circle centered at Q through B.