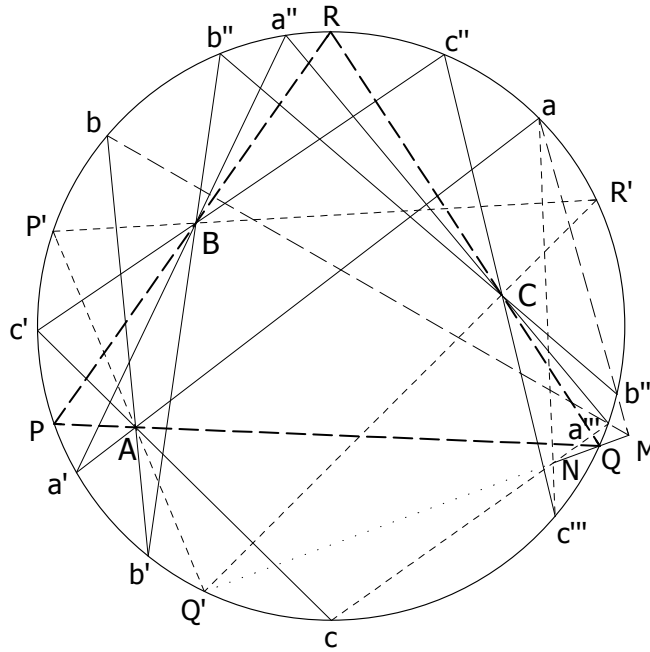


Solution
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Pick any three arbitrary points on the circle. I chose a: N=218.642, E=218.642, b: N=200.000, E= -235.814 and c: N= -309.206, E= 0.000.

By bearing-distance intersection:

aA intersects the circle at a' (N= -153.847, E= -268.215),
 a'B intersects the circle at a'' (N= 305.448, E= -48.058) and
 a''C intersects the circle at a''' (N= -102.568, E= 291.689). Continuing the pattern,
 bA intersects the circle at b' (N= -241.688, E= -192.861),
 b'B intersects the circle at b'' (N= 286.184, E= -117.078) and
 b''C intersects the circle at b''' (N= -71.864, E= 300.739).
 cA intersects the circle at c' (N= -4.678, E= -309.171),
 c'B intersects the circle at c'' (N= 285.391, E= 119.022) and
 c''C intersects the circle at c''' (N= -200.277, E= 235.579).

The intersection of ab''' and a'''b gives point M (N= -114.696, E= 312.843).

The intersection of ac''' and ca''' gives point N (N= -143.936, E= 233.302).

MN intersects the circle at Q (N= -125.878, E= 282.423), one of the vertices of the triangle shown by the dashed line. The other vertices are P (N= -102.835, E= -291.605) and R (N= 309.206, E= -0.658).

MN also intersects the circle at Q' (N= -278.831, E= -133.647), yielding P' (N= 100.047, E= -292.573) and R' (N= 130.920, E= 280.122).

The two triangles are not equal. QPR has sides of 574.491, 504.407 and 519.069 while Q'P'R' has sides of 410.861, 573.526 and 582.324.

Each side of the triangle passes through only one interior point.