

Question #28993

can a triangle have sides that measure 45mm, 19mm, and 23mm? Explain?

Solution. By the triangle inequality, for any triangle with sides a, b, c the following inequality is true:

$$a + b > c,$$

$$a + c > b,$$

$$b + c > a.$$

Since $19 + 23 = 42 < 45$, we conclude that a triangle cannot have sides that measure 45mm, 19mm, and 23mm.

Answer. No.