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The Triangle Inequality

Triangle Inequality Theorem

For a triangle to exist.....

The sum of the lengths of any two sides MUST be greater than the length of the third side.

$PQ + QR > PR$
$QR + PR > PQ$
$PR + PQ > QR$

Is it possible to form a triangle with the given side lengths?

1) 3, 4, 5

2) 4.3, 3.4, 7.6

3) 10, 13, 23

Find the range of the measure of the third side of the triangle given two sides.

1) 3 and 8

2) 12 and 23