

Week of April 3, 2017

There is a right triangle $\triangle ABC$ in which $\angle A$ is the right angle. On side AB , there are three points X , Y , and Z that satisfy

$\angle ACX = \angle XCY = \angle YCZ = \angle ZCB$ and $BZ = 2AX$. The smallest angle of $\triangle ABC$

is $\frac{a}{b}$ degrees, where a , b are positive

integers such that $\gcd(a, b) = 1$. Find $a + b$.