

GRADE 11 ESSENTIAL
UNIT G – TRIGONOMETRY
MULTI-STEP TRIANGLE CALCULATIONS

Name: _____

Date: _____

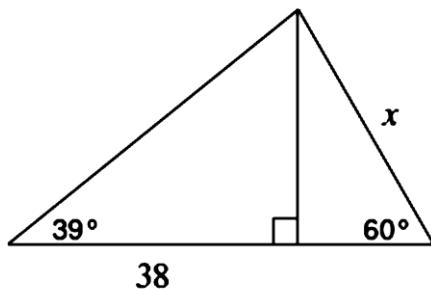
How do we find the parts of a triangle if we do not have a right triangle?
Well..... every triangle; right, obtuse, or acute can be made up of two right triangles! Fudge in a perpendicular 'altitude' line to break the triangle into two right triangles!

You now have one triangle of three known parts and you can use that to calculate the altitude line to help calculate the other right triangle.

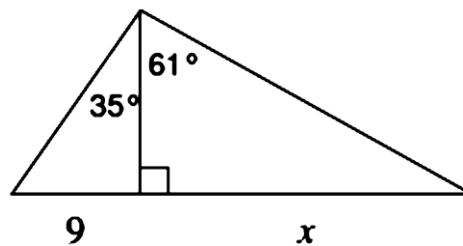
In this exercise try to be super accurate, do not do any rounding of your calculator values. Only the final answer should be rounded. (Using rounded numbers from one triangle to calculate another triangle is not very accurate)

Find the length of the segment labeled x .

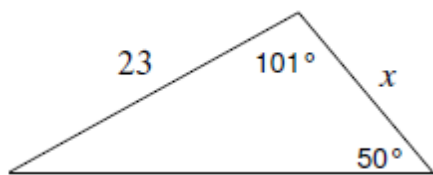
1)



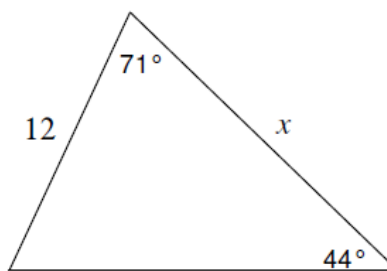
2)



3)



4)

**Answers:****1) $x = 35.53$ units****2) $x = 23.19$ units****3) $x = 14.56$ Units****4) $x = 15.65$ units**