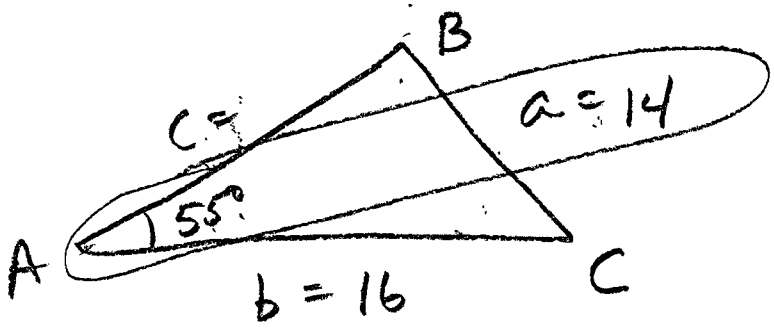
Algebra 2 | Tuesday 1-8-13 | Class Notes

(61) triangular logo

$a = 14 \quad b = 16 \quad m\angle A = 55$



$14^2 = c^2 + 16^2 - 2(c)(16) \quad \cos 55$

Quadratic Equation

$196 = c^2 + 256 - 32c(.5735)$

$-196 \qquad -196$

$0 = c^2 + 60 - 18.352c$

$c^2 - 18.352c + 60 = 0$

$a = 1$

$b = -18.352$

$c = 60$

$b^2 - 4ac$

$(-18.352)^2 - 4(1)(60)$

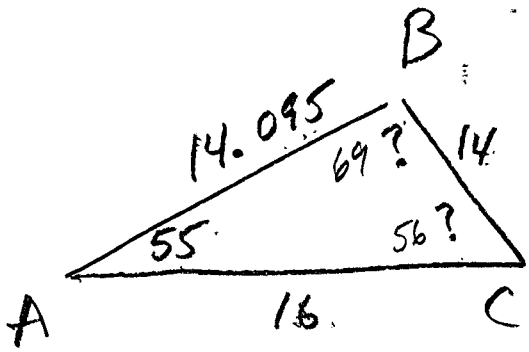
$336.795 - 240$

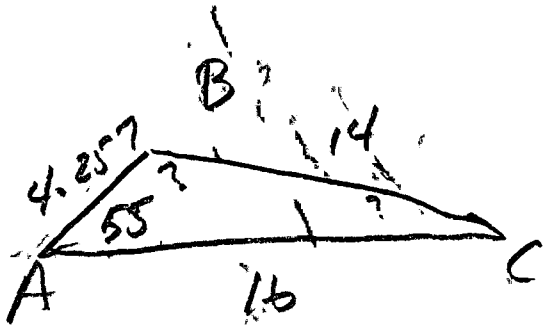
$96.795 = d$

$c = \frac{-b \pm \sqrt{d}}{2a} = \frac{18.352 \pm 9.838}{2}$

$c = \{14.095, 4.257\}$

2 possible triangle ~~for this SSA~~





$16^2 = 14.095^2 + 14^2 - 2(\ )(\ )\cos B$

$-138.669 = -394.66 \cos B$

$.35136 = \cos B$

$69.4 \approx 69^\circ = B$

$\begin{array}{r} 69 \\ 55 \\ \hline 124 \end{array}$

$C = 56^\circ$

$16^2 = 4.257^2 + 14^2 - 2(\ )(\ )\cos B$

$41.878 = -119.196 \cos B$

OBTUSE

$-.35133 = \cos B$

$\cos^{-1}(.35133) = B' =$

$B' = 69^\circ$

$B = 180 - 69 =$

$B = 111^\circ$

$C = 14^\circ$

Ambiguous Case of the Law of Sines