13.5B HW

Friday, May 16, 2014
2:35 PM

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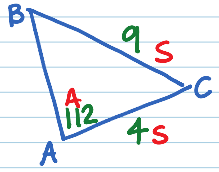
③ SSA, one triangle ④ AAS, one triangle ⑤ SSA, no triangle

⑥ SSA, no triangle ⑦ ASA, no triangle ⑧ SSA, no triangle

⑨ SSA, no triangle ⑩ SSA, 2 triangles ⑪ SSA, one triangle

Solutions

③



SSA

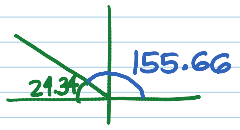
$\frac{\sin B}{4} = \frac{\sin 112}{9}$

$\frac{9\sin B}{9} = \frac{4\sin 112}{9}$

$\sin B = .412$

$B = \sin^{-1} .412$

$B = 24.34$



$180 - 24.34 = 155.66$

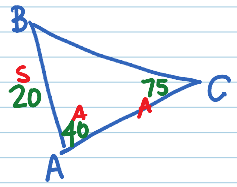
$+112$

$267.66 > 180$

not possible

ONE TRIANGLE

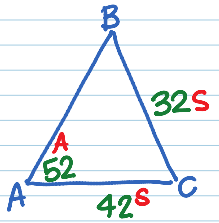
④



AAS

ONE TRIANGLE

⑤



SSA

$\frac{\sin B}{b} = \frac{\sin A}{a}$

$\frac{\sin B}{42} = \frac{\sin 52}{32}$

$32\sin B = 42\sin 52$

$\sin B = \frac{42\sin 52}{32}$

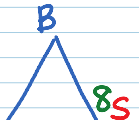
$\sin B = 1.03$

$B = \sin^{-1}(1.03)$

↑ sin is never > than 1

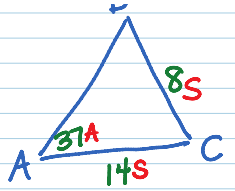
NO TRIANGLE

⑥



$\frac{\sin B}{14} = \frac{\sin 37}{8}$

⑥



SSA

$\frac{\sin B}{14} = \frac{\sin 37}{8}$

$\frac{8\sin B}{8} = \frac{14\sin 37}{8}$

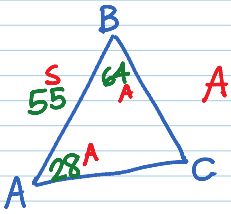
$\sin B = \frac{14\sin 37}{8}$

$B = \sin^{-1}(1.05)$

↑ Does not exist

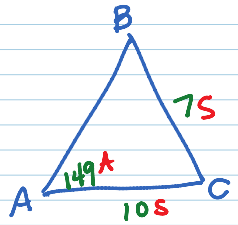
NO TRIANGLE

⑦



ASA, one triangle

⑧



SSA

$\frac{\sin B}{10} = \frac{\sin 149}{7}$

$\frac{7\sin B}{7} = \frac{10\sin 149}{7}$

$\sin B = .74$

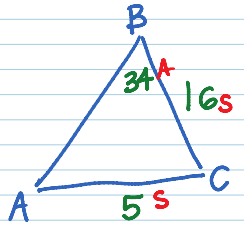
$B = \sin^{-1}(.74)$

$B = 47.37$

47.37
+149
196.37 > 180

NO TRIANGLE

⑨



SSA

$\frac{\sin A}{16} = \frac{\sin 34}{5}$

$\frac{5\sin A}{5} = \frac{16\sin 34}{5}$

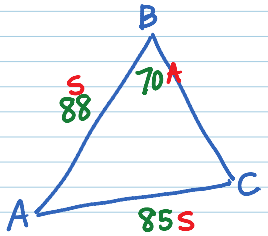
$\sin A = 1.79$

$A = \sin^{-1}(1.79)$

↑ can't do!

NO TRIANGLE

⑩

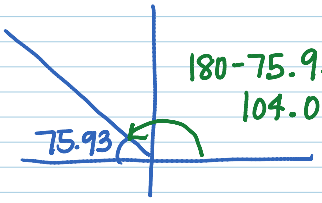


SSA

$\frac{\sin C}{88} = \frac{\sin 70}{85}$

$\frac{85\sin C}{85} = \frac{88\sin 70}{85}$

$\sin C = .97$



104.07 + 70 = 174.07 < 180

$\frac{}{85}$ $\frac{}{85}$

$\sin C = .97$

$C = \sin^{-1}(.97)$

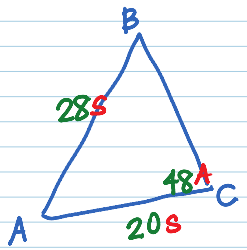
$C = 75.93$

$75.93 + 70 = 145 < 180$ ✓

$104.07 + 70 = 174.07 < 180$ ✓

TWO TRIANGLES

(11)



SSA

$\frac{\sin B}{20} = \frac{\sin 48}{28}$

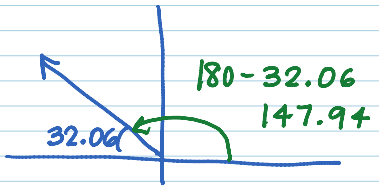
$\frac{28\sin B}{28} = \frac{20\sin 48}{28}$

$\sin B = .53$

$B = \sin^{-1}(.53)$

$B = 32.06$

$32.06 + 48 = 80.06 < 180$ ✓



$147.94 + 48$

$195.94 > 180$

↑ not possible

ONE TRIANGLE