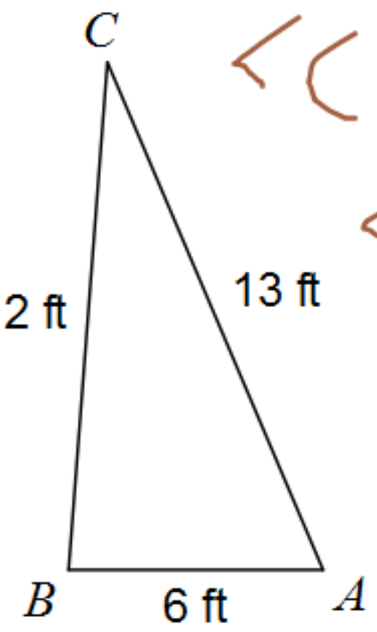
Solve each triangle. Round your answers to the nearest tenth.

18)



$\angle C = 180 - (67 + 85)$

$\angle C = 180 - 152$

$\angle C = 28^\circ$

$A = 67^\circ$ $a = 12$ ft

$B = 85^\circ$ $b = 13$ ft

$C = 28^\circ$ $c = 6$ ft

$\cos A = \dfrac{b^2 + c^2 - a^2}{2bc}$

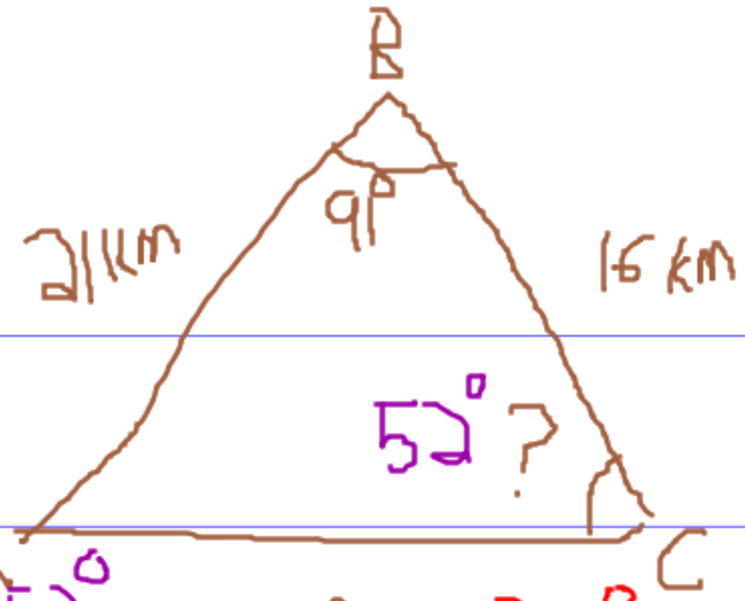
$\cos A = \dfrac{13^2 + 6^2 - 12^2}{2(13)(6)}$

$\cos A = 0.3910$

$A \approx 66.9^\circ$

Solve each triangle. Round your answers to the nearest tenth.

17) $a = 16$ km, $m\angle B = 91°$, $c = 21$ km
Find $m\angle C$



$\cos(=\frac{a^2+b^2-c^2}{2ab})$

$\cos(=\frac{16^2+26.6^2-21^2}{2(16\times26.6)})$

$\cos(=0.6139)$

$\cos^{-1}(=53°)$

$A=37°$

$a=16km$

$B=91°$ $b=26.6km$

$C=53°$ $C=21km$

$A=180-(91+53)$

$A=37°$

$b^2=a^2+c^2-2ac(\cos 91)$

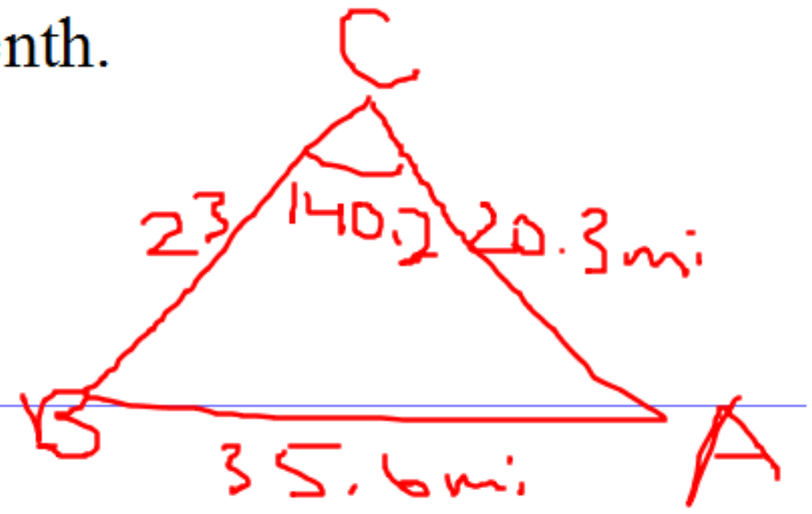
$b^2=16^2+21^2-((2\times16\times21)\times\cos 91)$

$\sqrt{b^2}=\sqrt{708.7}$

$b=26.6$

Solve each triangle. Round your answers to the nearest tenth.

16) $a = 23$ mi, $m\angle C = 140.2°$, $b = 20.3$ mi
Find $m\angle A$



$c^2 = a^2 + b^2 - 2ab(\cos C)$

$c^2 = 23^2 + 20.3^2 - 2(23)(20.3)(\cos 140.2)$

$c^2 = \sqrt{1266.72}$

$= 35.6$

$\cos A = \frac{c^2 + b^2 - a^2}{2cb}$

$\cos A = \frac{35.6^2 + 20.3^2 - 23^2}{2(35.6)(20.3)}$

$\cos A = 0.7960$

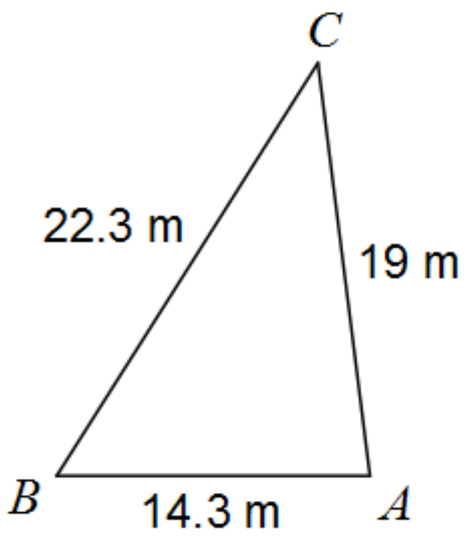
$\cos^{-1} A = 37.3°$

$\angle B = 180 - (140.2 + 37.3)$

$\angle B = 77.1°$

Solve each triangle. Round your answers to the nearest tenth.

19)



$180-(82.8+54)$

$180-136.8$

$=43.2$

$A=82.8°$ $a=22.3m$

$B=54°$ $b=19m$

$C=43.2$ $c=14.3m$

$\cos A=\frac{b^2+c^2-a^2}{2bc}$

$\cos A=\frac{19^2+14.3^2-22.3^2}{2(19)(14.3)}$

$\cos A\approx 0.1255$

$\cos A=82.8$

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

$\frac{\sin B}{19}=\frac{\sin 82.8°}{22.3}$

$19\sin 82.8°=22.3\sin B$

$\frac{19\sin 82.8°}{22.3}=\frac{22.3\sin B}{22.3}$

$1.2215=\sin B$

Finish thru #3