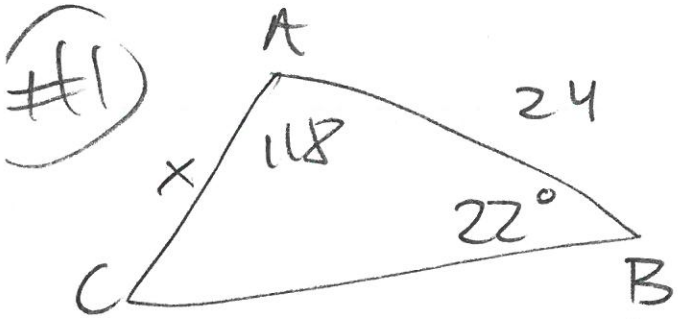
Sdutions to Odds Front Page

#1

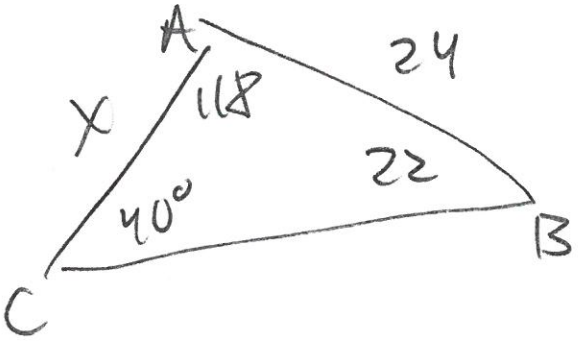


Since looking for side

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

$m\angle C = 180 - (118+22)$

$= 40°$



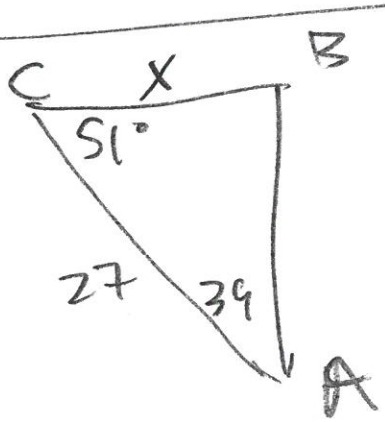
$$\frac{x}{\sin 22} = \frac{24}{\sin 40}$$

$$x = \frac{24 \sin 22}{40}$$

$$x \approx 13.987$$

$$x \approx 14.0$$

#3

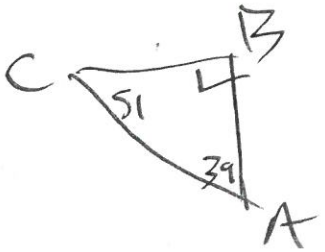


Since looking for side

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

$m\angle B = 180 - (51+39)$

$= 90$



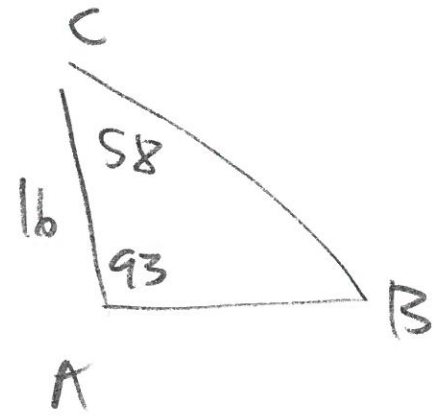
$$\frac{x}{\sin 39} = \frac{27}{\sin 90}$$

$$x = \frac{27 \sin 39}{\sin 90}$$

$$\approx 16.9917$$

$$x \approx 17.0$$

(5)

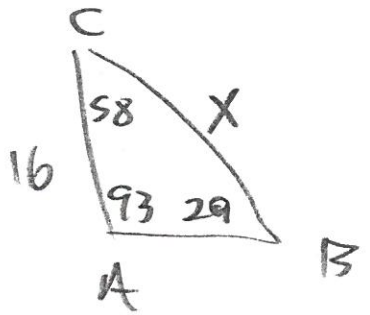


since looking for a side

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

$$\frac{16}{\sin 29} = \frac{x}{\sin 93}$$

$$m\angle B = 180 - (93 + 58)$$
$$= 29^\circ$$



$$x = \frac{16 \sin 93}{\sin 29}$$

$$x \approx 32.9574$$

$$x \approx 33.0$$

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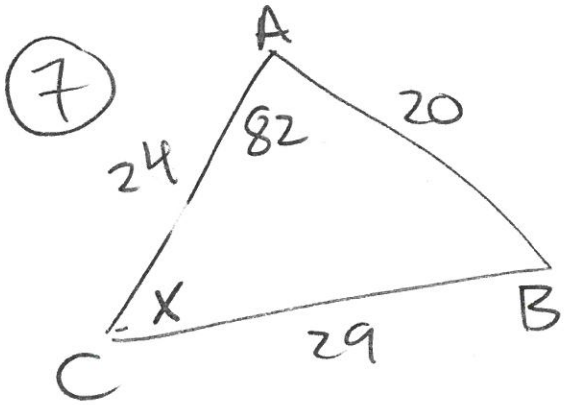
(7)



since looking for angle

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

$$\frac{\sin C}{20} = \frac{\sin 82}{29}$$

$$\sin C = \frac{20 \sin 82}{29}$$

$$C = \sin^{-1}\left(\frac{20 \sin 82}{29}\right)$$

$$\approx 43.0741$$

$$\approx 43.0^\circ$$

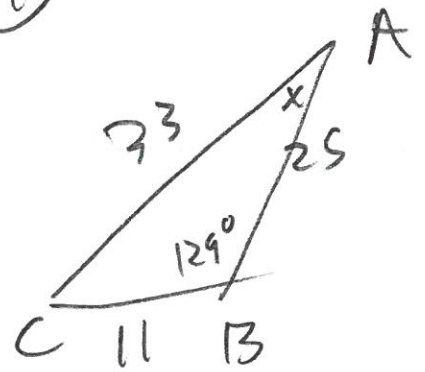
OR

$$\cos C = \frac{24^2 + 29^2 - 20^2}{2(24)(29)}$$

$$\angle C = \cos^{-1}\left(\frac{24^2 + 29^2 - 20^2}{2(24)(29)}\right)$$

$$\approx 43.0630 \approx 43.1$$

(9)



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

$$\frac{\sin A}{11} = \frac{\sin 129}{33}$$

$$\sin A = \frac{11 \sin 129}{33}$$

$$A = \sin^{-1}\left(\frac{11 \sin 129}{33}\right)$$

$$A \approx 15.0136$$

$$A \approx 15.0°$$

OR

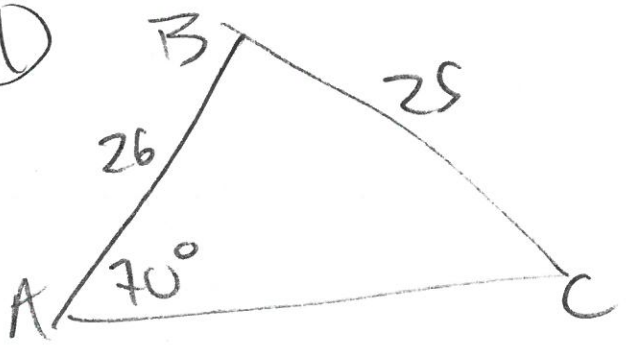
$$\cos A = \frac{33^2 + 25^2 - 11^2}{2(33)(25)}$$

$$A = \cos^{-1}\left(\frac{33^2 + 25^2 - 11^2}{2(33)(25)}\right)$$

$$A \approx 15.1040$$

$$A \approx 15.1°$$

(10)



SSA !!

ACUTE ∠ given !!

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

$$\frac{\sin 70}{25} = \frac{\sin C}{26}$$

$$\sin C = \frac{26 \sin 70}{25}$$

$$C = \sin^{-1}\left(\frac{26 \sin 70}{25}\right) \approx 77.7633$$

$$\frac{b}{\sin 32.2} = \frac{25}{\sin 70}$$ approx

$$b = \frac{25 \sin 32.2}{\sin 70}$$

$$b \approx 14.1769$$

$b \approx 14.2$

$$B = 180 - (70 + 77.8)$$

$$\approx 32.2°$$

NEED TO CHECK FOR SECOND TRIANGLE NOW

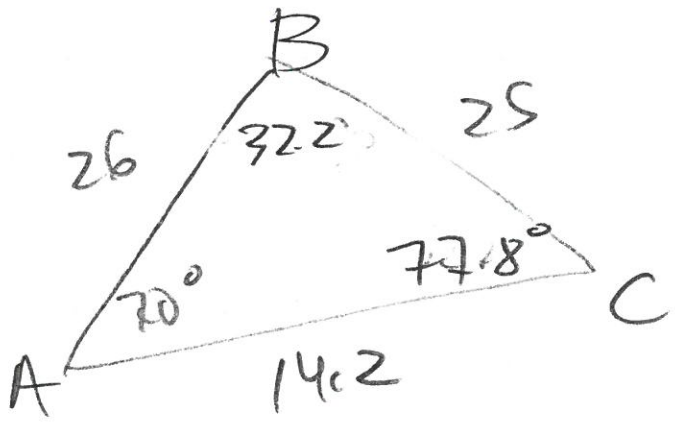
"other" $C = 180 - 77.7633 = 102.2367$

check $70 + 102.2367 < 180$

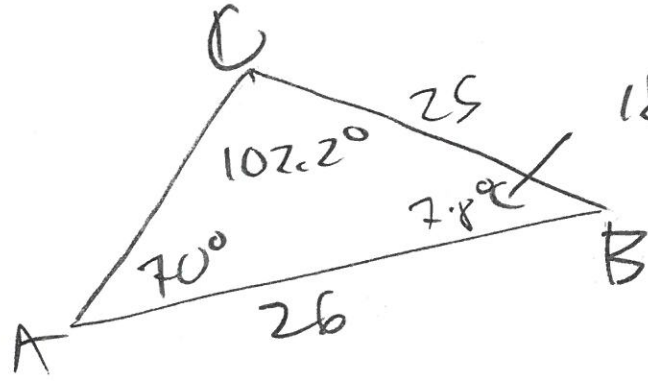
2nd triangle EXISTS

11 cont

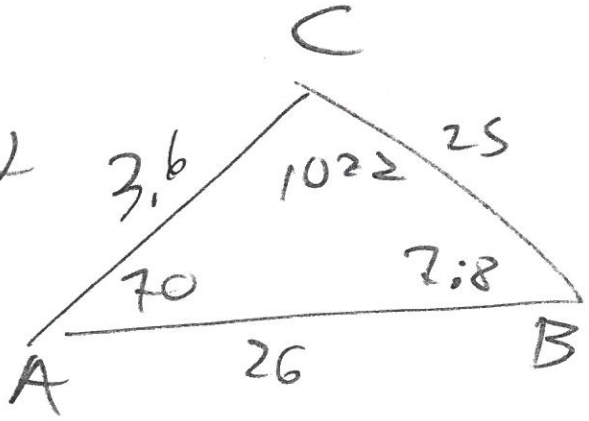
First triangle



Second triangle



$180 - (102.2 + 70) = 7.8$



$$\frac{b}{\sin 7.8} = \frac{25}{\sin 70}$$

$$b = \frac{25 \sin 7.8}{\sin 70}$$

$$b = 3.6106$$

≈ 3.6 ← approx