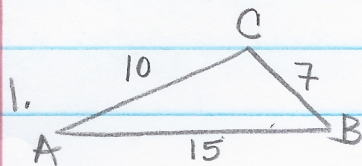


Friday 11/16

Book p. 443-445 #1, 3, #29-41 (odd)

SSS



$$\cos A = \frac{15^2 + 10^2 - 7^2}{2(10)(15)}$$

$$\cos^{-1}(.920) = A$$

$$A \approx 23.074$$

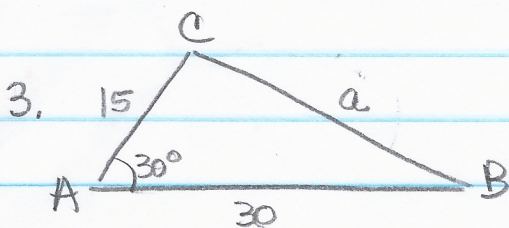
$$\cos C = \frac{10^2 + 7^2 - 15^2}{2(10)(7)}$$

$$B = 34.048^\circ$$

$$\cos^{-1}(-.543) = A$$

$$A = 122.878^\circ$$

SAS



$$a = \sqrt{15^2 + 30^2 - 2(15)(30)\cos 30^\circ}$$

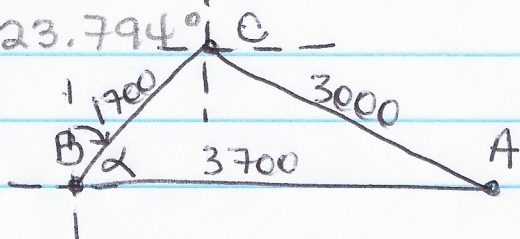
$$a = 18.590 \quad (\text{STO})$$

$$\cos C = \frac{15^2 + x^2 - 30^2}{2(15)(x)}$$

$$\cos^{-1}(-.591) = 126.206^\circ$$

$$B = 23.794^\circ$$

29.



$$\cos \alpha = \frac{1700^2 + 3700^2 - 3000^2}{2 \cdot 1700 \cdot 3700}$$

$$\alpha = 52.948^\circ$$

$$\text{heading} = 90^\circ - 52.948^\circ \quad \text{N } 37.052^\circ \text{ E}$$

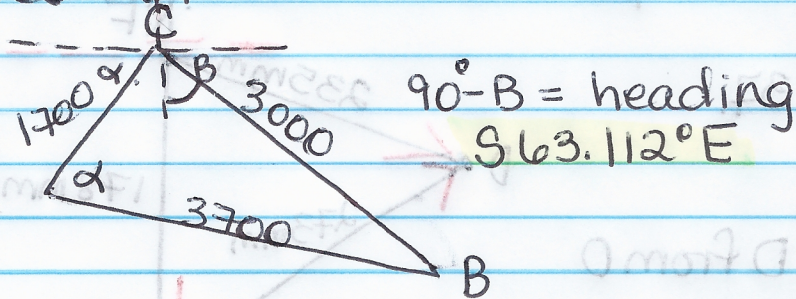
cont 29

Finding heading for $\angle C$:

$$\cos C = \frac{(1700^2 + 3000^2 - 3700^2)}{(2 \cdot 1700 \cdot 3000)}$$

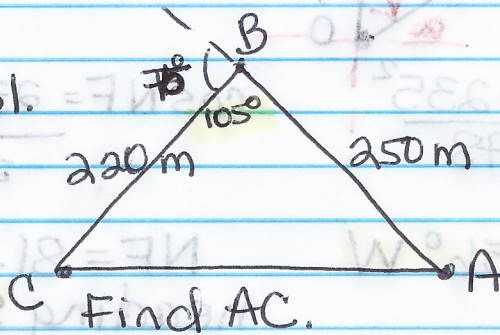
$$C = 100.164^\circ$$

$$B = 26.888^\circ$$



SAS

31.



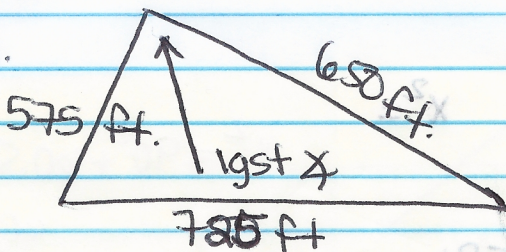
Find AC.

$$(AC)^2 = 220^2 + 250^2 - 2(220 \cdot 250) \cos 105^\circ$$

$$AC^2 = 139370.095$$

$$AC = 373.323 \text{ m}$$

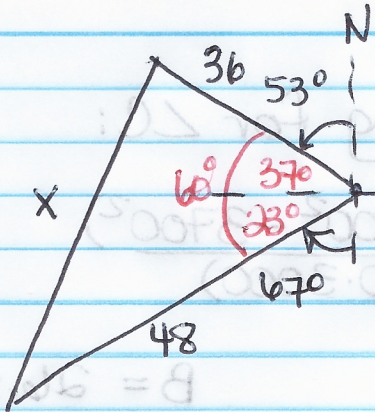
SSS 33.



$$\cos \theta = \frac{575^2 + 650^2 - 725^2}{2(575 \cdot 650)}$$

$$\theta = 72.281^\circ$$

SAS 35.

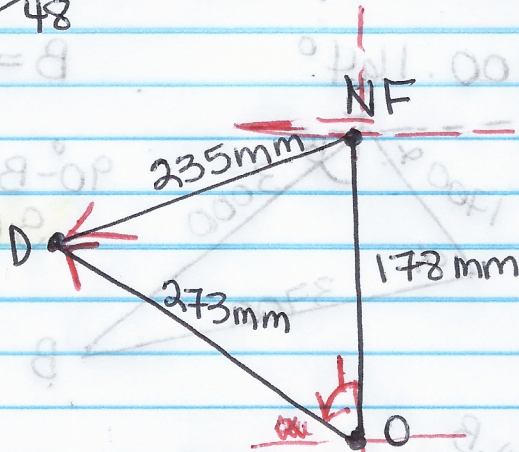


$$X^2 = 36^2 + 48^2 - 2 \cdot 36 \cdot 48 \cos 60^\circ$$

$$X^2 = 1872.000$$

$$X = 43.267 \text{ mi.}$$

SSS 37.



D from O

$$\cos \theta = \frac{273^2 + 178^2 - 235^2}{2 \cdot 273 \cdot 178}$$

$$\theta = 58.356^\circ$$

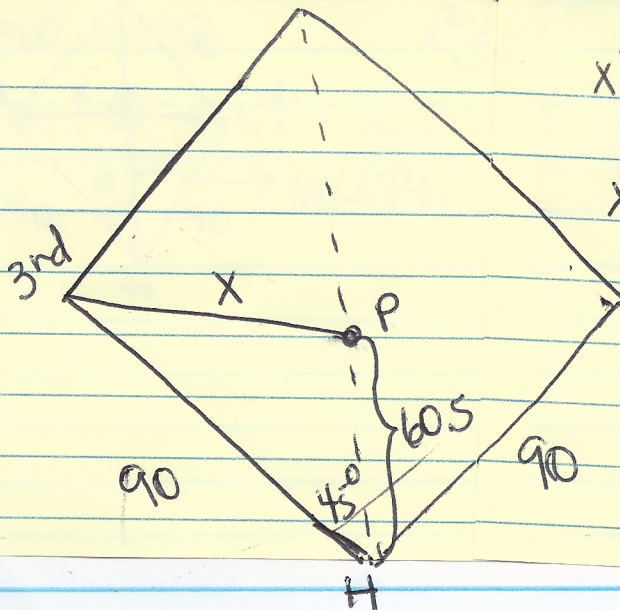
a) heading N 58.356° W

$$\cos NF = \frac{235^2 + 178^2 - 273^2}{2(235 \cdot 178)}$$

NF = 81.490°
heading S 81.490° W

b) D from NF

39.



$$X^2 = 90^2 + 60.5^2 - 2 \cdot 90 \cdot 60.5 \cos 45^\circ$$

$$X = 63.717 \text{ ft.}$$



$$X = 45\sqrt{2}$$

