Before we begin, are there any questions from last day's work? 5.2.1

pp.61-62 1,3c,4,6,8 pp.69-70 1c,3,5,7,9

(Tuesday's quiz will be based on the first three lessons; this includes today's)

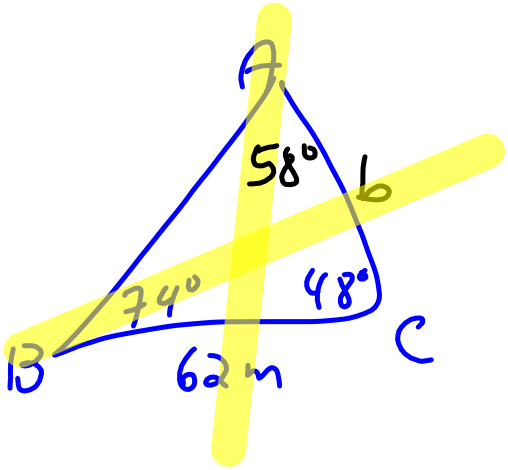
Today's Learning Goal(s):

By the end of the class, I will be able to:

a) solve trigonometry questions involving more than one triangle.

p.62 #8

8. In ΔABC, C is located 62.0 m from B. ∠ABC=74.0° and ∠ACB=48.0°. Determine the measure of side b.



$$\frac{b}{\sin 74^\circ} = \frac{62}{\sin 58^\circ}$$

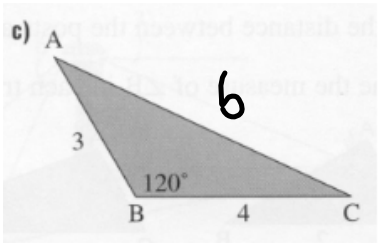
$$b = \sin 74^\circ \times \frac{62}{\sin 58^\circ}$$

$$\doteq 70.2769$$

$$\doteq 70.277 \text{ m}$$

p.70 #1c

1. Calculate the length of AC in each triangle.



$$b^2 = 3^2 + 4^2 - 2(3)(4)\cos 120^\circ$$

$$= 37$$

$$b = \sqrt{37}$$

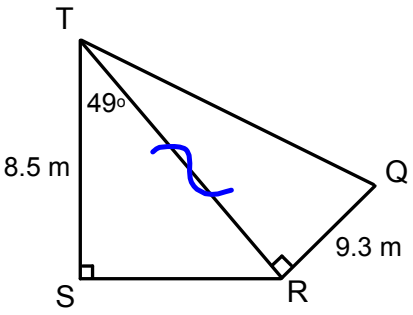
$$\doteq 6.0827$$

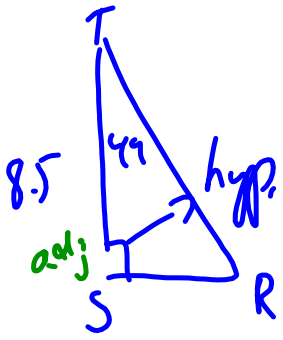
$$\doteq 6.083 \text{ units}$$

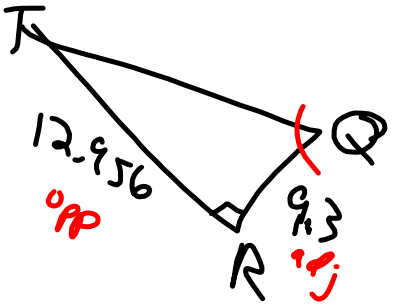
5.3.1: Solving Problems Involving More Than One Triangle

Date: Apr. 28/17

Ex. 1 Determine the measure of $\angle Q$.







CAH

$\cos 49^\circ = \frac{8.5}{TR}$

$TR = \frac{8.5}{\cos 49^\circ}$

$\div 12.9561$

$\div 12.956$

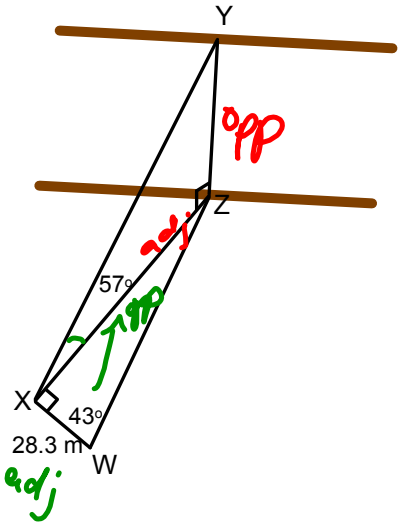
$\tan Q \div \frac{12.956}{9.3}$

$Q \div \tan^{-1}\left(\frac{12.956}{9.3}\right)$

$\div 54.328$

$\div 54.33^\circ$

Ex. 2 Determine the height of the cliff, in metres.



$\tan 43^\circ = \frac{XZ}{28.3}$

$XZ = 28.3 \tan 43^\circ$

$\doteq 26.3901$

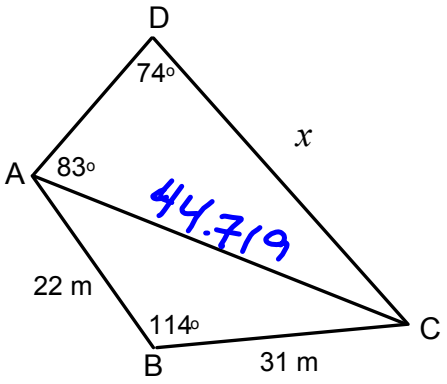
$\doteq 26.390$

$\tan 57^\circ \doteq \frac{YZ}{26.390}$

$YZ \doteq 26.39 \tan 57^\circ$

$\doteq 40.637$ m

Ex. 3 Determine the value of x.



$AC = \sqrt{(22^2 + 31^2 - 2(22)(31)\cos 114^\circ)}$

$\doteq 44.7189$

$\doteq 44.719$

$\frac{x}{\sin 83^\circ} \doteq \frac{44.719}{\sin 74^\circ}$

$x \doteq \sin 83^\circ \times \frac{44.719}{\sin 74^\circ}$

$\doteq 46.1743$

$\doteq 46.174$ m

Homework 5.3.1
pp.36-40 (1,2) ac, 4, 5, 10, 12, 13
p.71 14, 17