HAPPY ST. PATRICK'S DAY!!!

It's tomorrow, but oh well. Using the letters above, make as many words as you can.

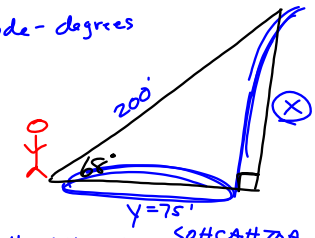
Mar 16-9:20 AM

You are a Nature Guide taking a group near one of the famous waterfalls in Southern Utah. The angle of elevation from the edge of the pool where you are standing to the top of the waterfall is 68 degrees and the distance from the top of the waterfall to the edge of the pool where you are standing is 200 ft.

1. Find the height of the waterfall to the nearest foot.
2. Find the width across the pool to the nearest foot.

Mar 16-11:35 AM

mode - degrees



SOHCAHTOA

Law of Sines

Law of Cosines

$\sin 68 = \frac{x}{200}$

$200 \cdot \sin 68 = x$

$x = 185.4$ ft

$x = 185$ ft

$\cos 68 = \frac{y}{200}$

$y = 200 \cdot \cos 68$

$y = 74.9$

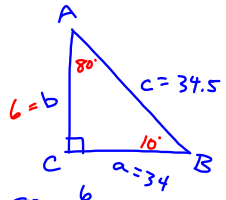
$= 75$ ft

Mar 16-11:51 AM

$A = 80°$ $a = 34$

$B = 10°$ $b = 6$

$c = 34.5$



SOHCAHTOA

$\tan 80 = \frac{a}{6}$

$a = 6 \cdot \tan 80$

$a = 34$

$\cos 80 = \frac{6}{c}$

$c = \frac{6}{\cos 80}$

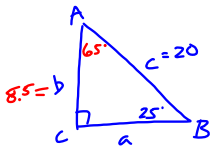
$c = 34.5$

Mar 16-12:00 PM

$A = 65°$ $a = 18.1$

$B = 25°$ $b = 8.5$

$c = 20$



SOHCAHTOA

$\sin 25 = \frac{b}{20}$

$b = 20 \cdot \sin 25$

$b = 8.5$

$\cos 25 = \frac{a}{20}$

$a = 20 \cdot \cos 25$

$a = 18.1$

$a^2 + b^2 = c^2$

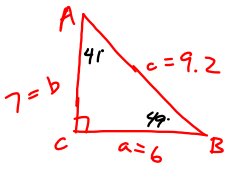
$180 - 90 = 90$, $90 - 25 = 65°$

Mar 16-12:07 PM

$a = 6$ $A = 41°$

$b = 7$ $B = 49°$

$c = 9.2$



SOHCAHTOA

$\tan A = \frac{6}{7}$

$\tan^{-1}(\tan A) = \tan^{-1}\frac{6}{7}$

$A = 41°$

$\cos 41 = \frac{7}{c}$

$c = \frac{7}{\cos 41}$ $c = 9.2$

$a^2 + b^2 = c^2$

$6^2 + 7^2 = c^2$

$36 + 49 = c^2$

$\sqrt{85} = \sqrt{c^2}$

$c = 9.2$

Mar 16-12:13 PM

SOHCAHTOA

$\sin\theta = \frac{5}{11}$

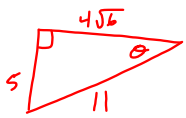
$\cos\theta = \frac{4\sqrt{6}}{11}$

$\tan\theta = \frac{5}{4\sqrt{6}} = \frac{5\sqrt{6}}{24}$

$\csc\theta = \frac{11}{5}$

$\sec\theta = \frac{11}{4\sqrt{6}} = \frac{11\sqrt{6}}{24}$

$\cot\theta = \frac{4\sqrt{6}}{5}$



$a^2+b^2=c^2$

$5^2+b^2=11^2$

$25+b^2=121$

$\sqrt{b^2}=\sqrt{96}=\sqrt{16\cdot 6}$

$b=4\sqrt{6}$

Mar 16-12:21 PM

$\frac{5}{4\sqrt{6}}\cdot\frac{\sqrt{6}}{\sqrt{6}}=\frac{5\sqrt{6}}{24}$

$\frac{11}{4\sqrt{6}}\cdot\frac{\sqrt{6}}{\sqrt{6}}=\frac{11\sqrt{6}}{24}$

Mar 16-12:39 PM