Adv. Alg.-Trig.

Homework #9.2

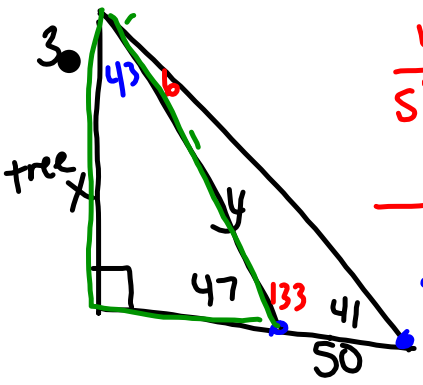
HW 9.3

Test on Law of Sines Tuesday!

1) a = 12, b = 9 2) c = 238 3) x = 230

Practice Worksheet

1) b = 6 3) c = 5 5) c = $5\sqrt{2}$ (7.1) 13) 12.7



$\frac{y}{\sin 41} = \frac{50}{\sin 6}$

$y = 313.82$

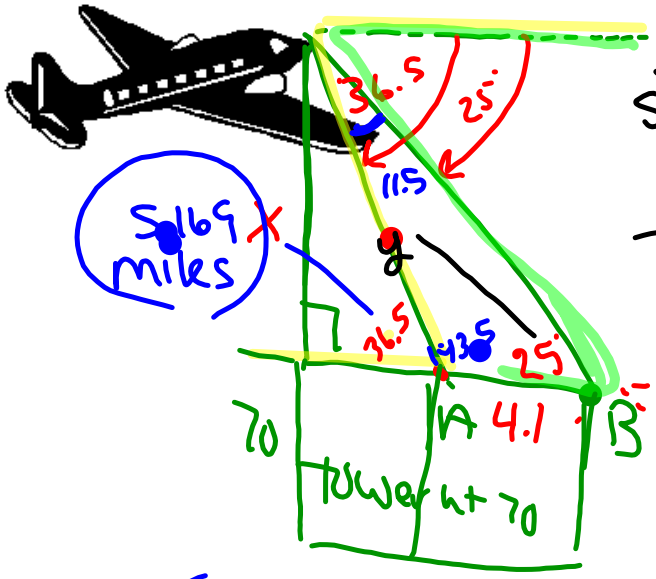
$\frac{x}{\sin 47} = \frac{313.82}{\sin 90}$

$x = 229.51$

230 ft

Law of Sines Word Problem

Towers A and B are known to be 4.1 mi. apart on level ground. A pilot measures the angles of depression to the towers to be 36.5 degrees and 25 degrees, respectively. Find the height of the airplane.



$\frac{4.1}{\sin 11.5} = \frac{y}{\sin 25}$ enter

$y = 8.69$

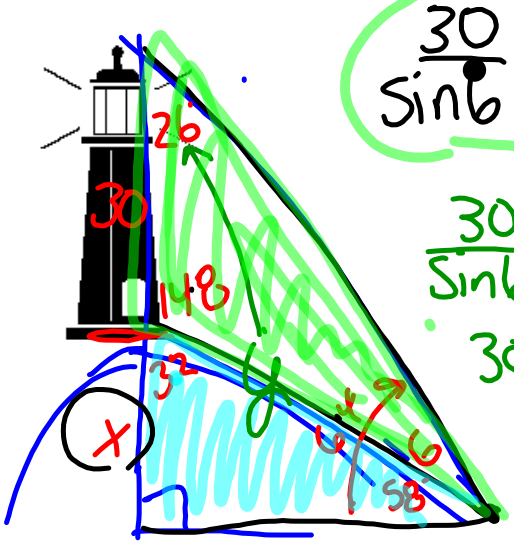
$\frac{x}{\sin 36.5} = \frac{8.69}{\sin 90}$

$x = 5.169$

5.169 miles

5280 ft = 1 mile

A lighthouse is 30 meters high and is on top of a hill. The angles of elevation of the top and bottom of the lighthouse from a point at the foot of the hill are 64 degrees and 58 degrees ~~4 feet respectively~~. How high is the hill?



$\frac{30}{\sin 6} = \frac{y}{\sin 90}$

$\frac{30}{\sin 6} = \frac{y}{\sin 26}$

$\frac{30\sin 26}{\sin 6} = \frac{y \sin 6}{\sin 6}$

$125.8 = y$

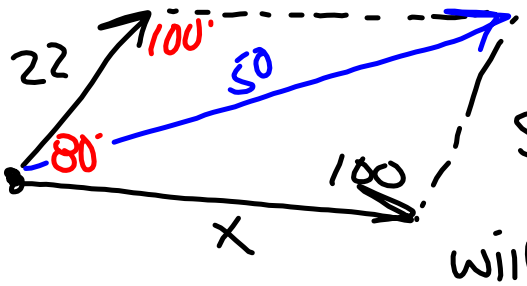
$\frac{x}{\sin 58} = \frac{125.8}{\sin 90}$

$x = 106.7$

106.7 ft

Problem:

Two forces act on a body to produce a resultant force of 50 lbs. The angl between the forces is 80° and one force is 22 lbs. Find the second force.



11gram. Consecutive ∠s Sum 180°

$$\frac{50}{\sin 100} = \frac{22}{\sin\theta}$$

will finish Monday.

HW 9.3

Don't forget Practice Problems listed at the bottom

Test on Law of Sines Tuesday!