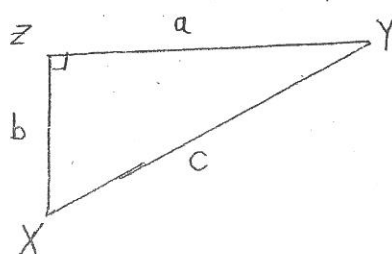


Thyself: Key

1. Thou art to write the ratio of sides which corresponds with the Trig. Function:

- a. $\sin X = \frac{a}{c}$
- b. $\cos Y = \frac{a}{c}$
- c. $\tan X = \frac{a}{b}$
- d. $\tan Y = \frac{b}{a}$



2. Why didn't I use $\angle Z$ as a reference in problem #1?

It is 90° - can't reference 90° angle.

3. Thou art to solve for each angle:

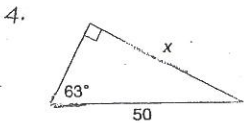
a. $\sin A = 0.7245$

46.43°

b. $\cos B = 0.2493$

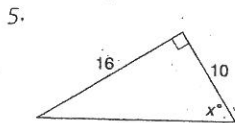
75.56°

#4-6, Solve for the variable.



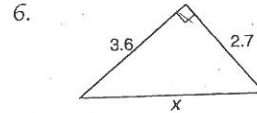
$\sin 63 = \frac{x}{50}$

44.55



$\tan X = \frac{16}{10}$

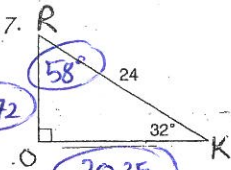
57.99°



$3.6^2 + 2.7^2 = x^2$

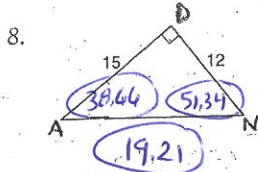
4.5

7-9, Solve the triangle.



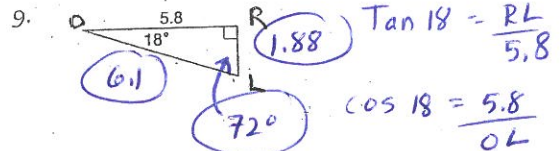
$\sin 32 = \frac{20}{24}$

$\cos 32 = \frac{OK}{24}$



$\sin A = \frac{12}{19.2}$

$\tan N = \frac{15}{12}$



$\tan 18 = \frac{RL}{5.8}$

$\cos 18 = \frac{5.8}{OL}$

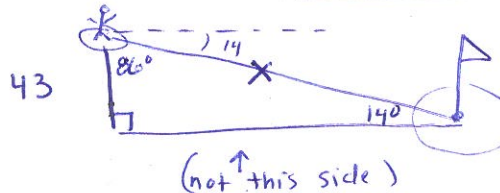
10. Michelle is flying a kite. She lets out 55 ft. of string. If the string makes a 35° angle with the ground, how high is kite?



$\sin 35 = \frac{x}{55}$

31.55 ft

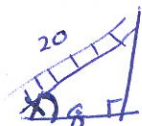
11. A golfer is standing at a tee (beginning) with the green (ending) in the valley below. If the tee is 43 yds. higher than green & angle of depression from tee to hole (on green) is 14° , find the distance from tee to hole.



$\sin 14 = \frac{43}{x}$

177.74 yds

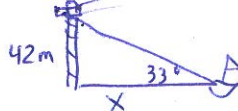
12. A 20 ft. ladder leans against a wall so that base of ladder is 8 ft. from wall. What angle does ladder make with ground?



$\cos X = \frac{8}{20}$

66.42°

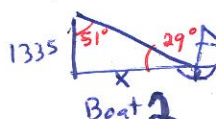
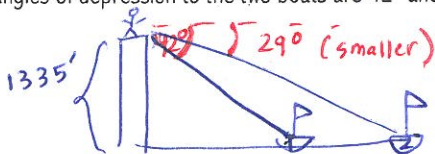
13. The angle of elevation from a ship to a 42 m. lighthouse on shore is 33° . How far is the ship from shore?



$\tan 33 = \frac{42}{x}$

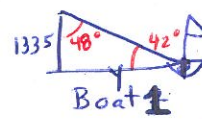
64.67 m

4. Natalie is on the Skydeck of the John Hancock Building (Chicago, IL) overlooking Lake Michigan. She sees two sailboats going due east from tower. The angles of depression to the two boats are 42° and 29° . If the Skydeck is 1335 feet high, how far apart are the two boats?



$\tan 29 = \frac{1335}{x}$

$x = 2408.10$



$\tan 42 = \frac{1335}{y}$

$y = 1482.67$

925.73 ft