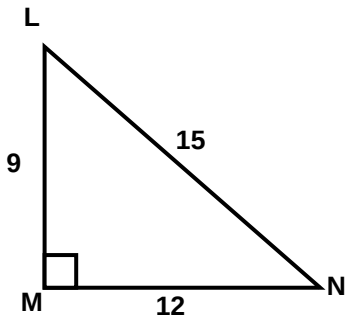
Review: **TRIGONOMETRIC RATIOS**

NAME: _____ DATE: _____ PERIOD: _____

PART 1: TRIGONOMETRIC RATIOS

Use the diagram to express each ratio as a fraction in simplest **form.**

1. _____ Find sin L.

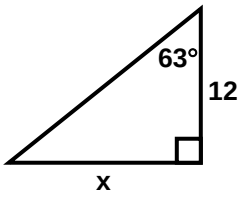


2. _____ Find cos L.

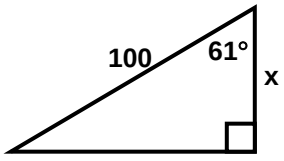
3. _____ Find tan L.

Using your trigonometric table, find the value of x in each of the following.

4. x = _____



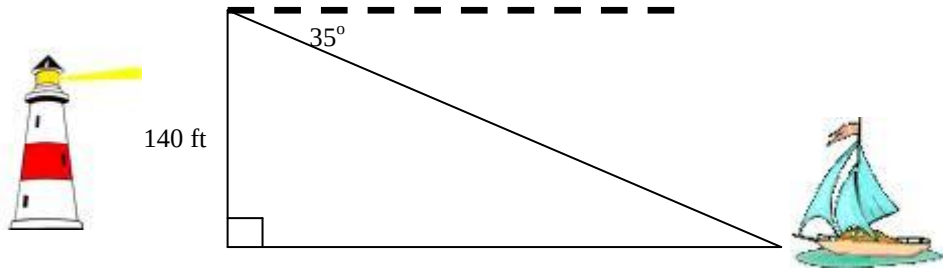
5. x = _____



Part 2: Trigonometric Ratio Application Problems

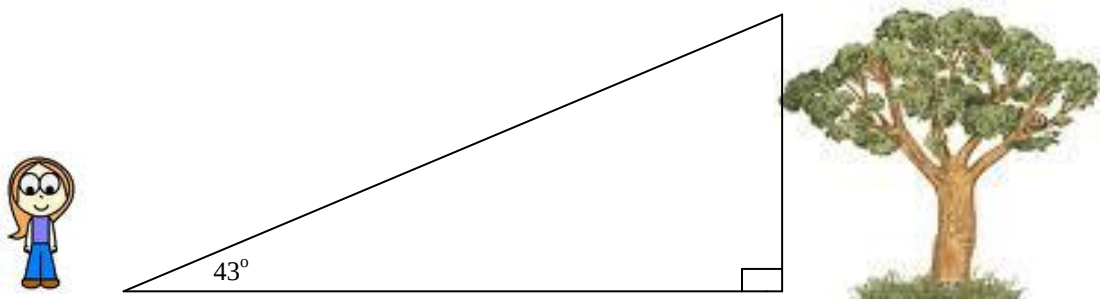
For #'s 6 – 12, round your answers to the nearest tenth.

6. From the top of a lighthouse 140 feet above sea level, the angle of depression to a boat at sea is 35°. To the nearest foot, what is the horizontal distance from the boat to the base of the lighthouse?



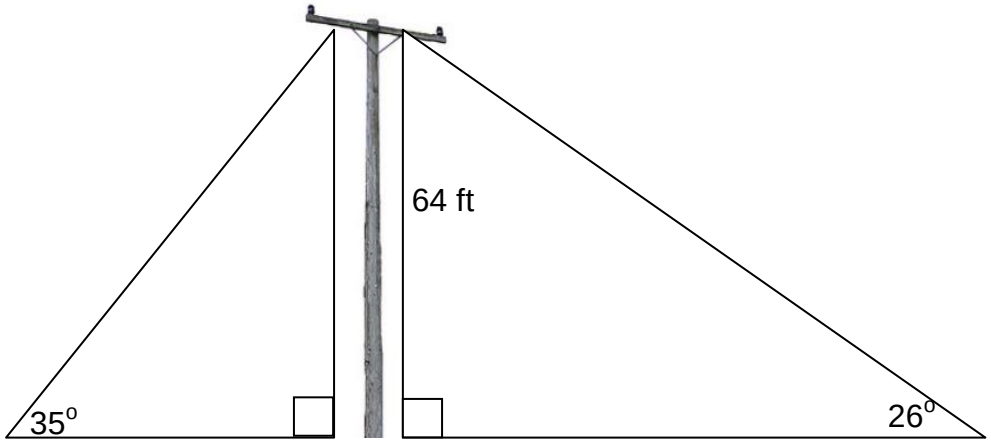
Distance ≈ _____

7. Rachel wants to measure the height of a tree. She walks exactly 80 feet from the base of the tree and looks up. The angle from the ground to the top of the tree is 43º. How tall is the tree?



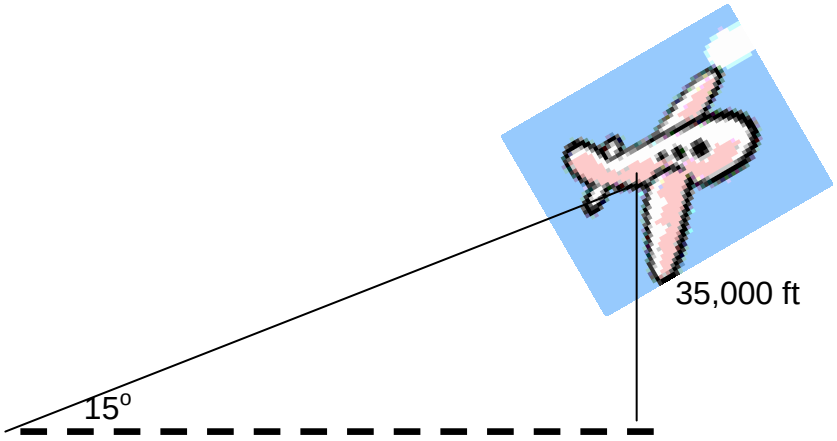
Height of tree ≈ _____

8. Two wires are attached to the top of a 64 foot pole and are staked in opposite directions in the ground. The wires make angles of $35°$ and $26°$ respectively with the ground. Find the distance between the two stakes.



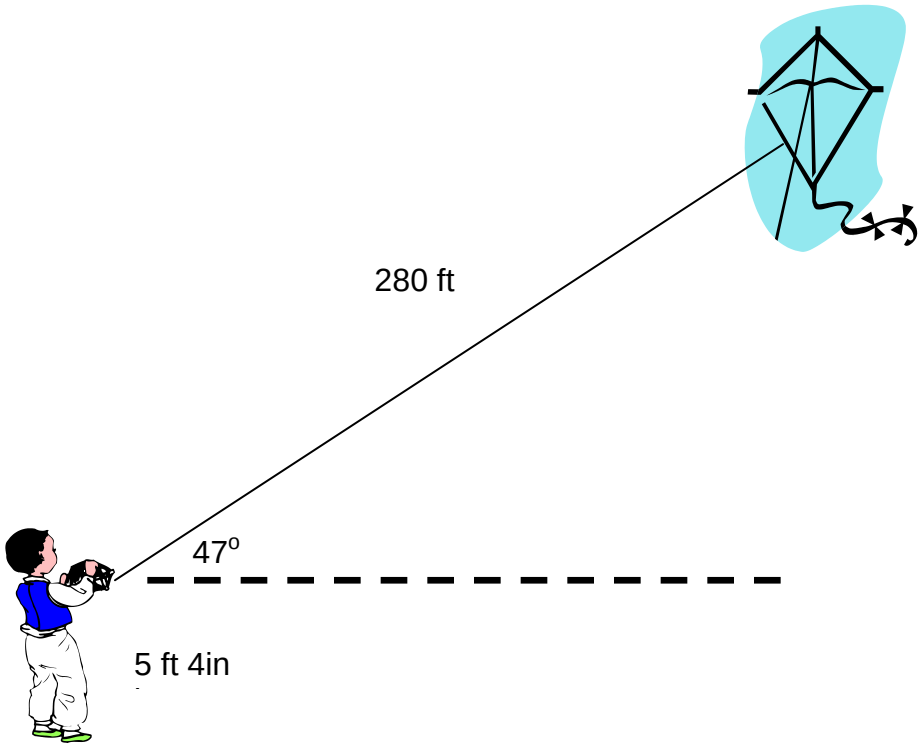
Distance between the two stakes ≈_____.

9. An airplane ascends at an angle of $15°$ with the ground. Find the distance of the flight path the plane has traveled when it has reached a cruising altitude of 35,000 feet.



Distance of the flight path ≈_____.

10. A boy with an out stretched arm, 5 feet 4 inches off the ground, is flying a kite and lets out 280 feet of string which makes an angle of $47°$ with the horizontal. Assuming that the string is straight, how high above the ground is the kite rounded to the nearest tenth? (HINT: 1 foot = 12 inches; convert the values to inches before calculating the height)



Kite's Height ≈_____ft.