

Standard 9 Review: Name: _____ Per: _____

1. Find the exact values of the trig functions given that.

$$\sin u = \frac{8}{17} \quad 0 < u < \frac{\pi}{2}$$

a. $\sin(2u)$

b. $\cos(2u)$

c. $\tan(2u)$

2. Use the Power-Reducing Formulas to solve the expressions using the first power of cos. Show your work.

a. $\cos^4 30^\circ$

b. $\sin^2 60^\circ \cos^2 45^\circ$

3. Use the half angle formulas to determine the exact values.

$$u = 330^\circ$$

a. $\sin(165^\circ)$

b. $\cos(165^\circ)$

c. $\tan(165^\circ)$

4. Use the Product-to-Sum formulas to write the product as a sum.

a. $\sin 45^\circ \cos 15^\circ$

b. $2\sin 45^\circ \sin 15^\circ$

5. Use the Sum-to-Product formulas to write the sum as a product.

a. $\sin 90^\circ + \sin 30^\circ$

b. $\cos 150^\circ + \cos 30^\circ$

6. Use the given information to find the number of triangle possible.

a. $A = 30^\circ, b = 20, a = 10$

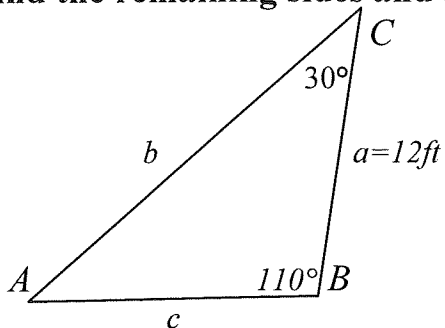
b. $A = 30^\circ, b = 20, a = 15$

c. $A = 60^\circ, b = 10, a = 5$

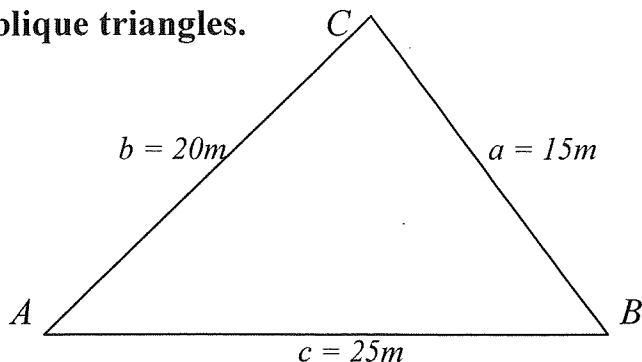
d. $A = 60^\circ, b = 10, a = 11$

7. Find the remaining sides and angles of the oblique triangles.

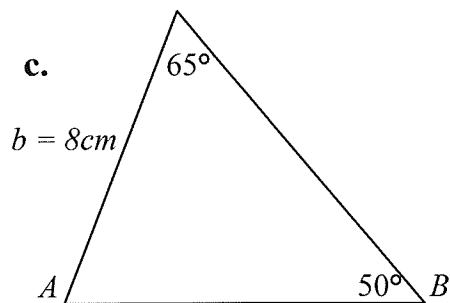
a.



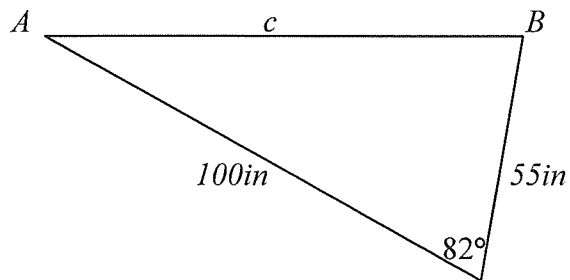
b.



c.

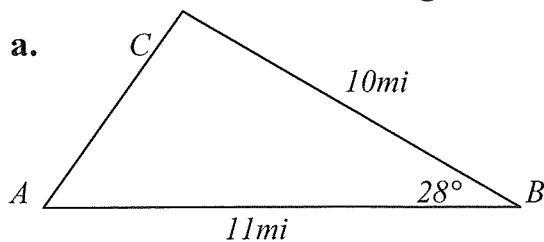


d.

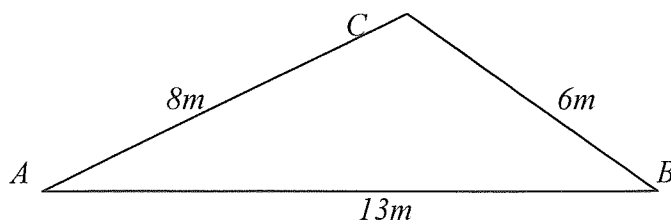


8. Find the Area of the triangles.

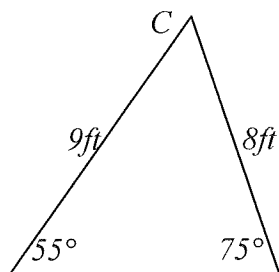
a.



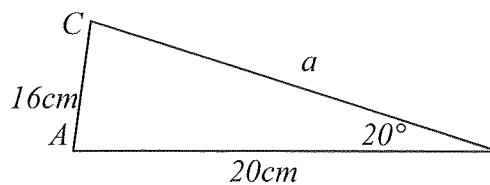
b.



c.

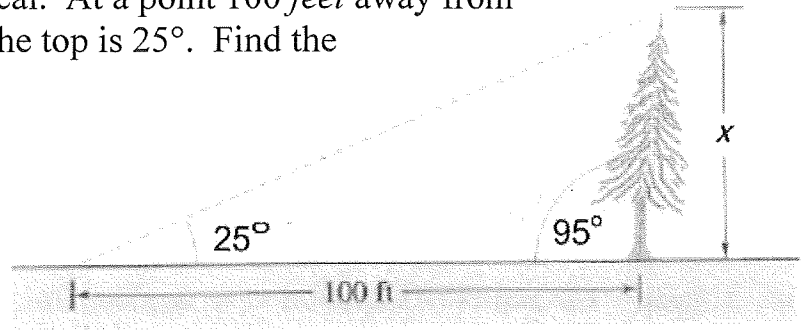


d.

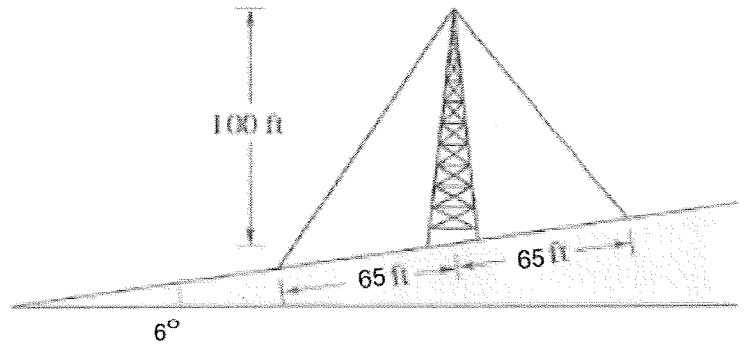


9. The following information about a triangular parcel of land is given at a zoning board meeting. "One side is 3200 ft long, and another is 1200 ft . The angle opposite the shorter side is 40° ." Could this be true?

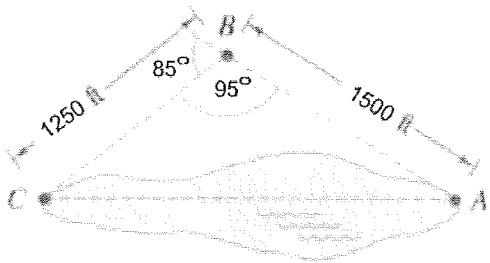
10. A tree grows leaning 5° from vertical. At a point 100 feet away from the tree, the angle of elevation to the top is 25° . Find the height x of the tree.



11. A 100 ft vertical tower is built on the side of a hill with an 6° incline. Find the length of the two guide wires that are anchored 65 ft uphill and downhill from the base of the tower.



12. To find the length of a lake, a surveyor walks 1500 ft from point A to B . Next he turns 85° and walks 1250 ft to point C . Find the length of the lake.



13. Solve the triangle(s)

