

- Convert $55^\circ 24' 39''$ to decimal degrees.
- For $\triangle ABC$ with $\angle C = 90^\circ$, $a = 6$, $b = 4$ find 6 trig ratios for $\angle B$.
- Solve for remaining sides and angles of $\triangle ABC$ given:
 $\angle A = 23^\circ$, $\angle C = 90^\circ$, $c = 16$.
- An observer is standing 350 meters from the entrance to a building. If their angle of elevation to the top of the building is 24° , how tall is the building?

For problems 5—7, you will determine whether to use 0, 1, or 2 arrays for each problem. Put the corresponding problem # in front of the array. If you use two arrays, you would put that problem # in front of both arrays.

- Solve for remaining sides and angles of $\triangle ABC$ given:
 $\angle A = 41^\circ$, $\angle C = 63^\circ$, $a = 31$.
- Solve for remaining sides and angles of $\triangle ABC$ given:
 $\angle C = 34^\circ$, $b = 16$, $c = 12$.
- Solve for remaining sides and angles of $\triangle ABC$ given:
 $a = 23$, $b = 16$, $C = 78^\circ$.
- The side of a hill makes an angle of 19° with the horizontal. A wire is to be run from the top of a 150-foot tower that sits at the top of the hill to a stake that's located 120 feet down the hillside from the base of the tower. What length of wire is needed?
- A surveyor wants to find the distance between two buildings. From where he stands, he measures the distance to the first building as 240 feet while the distance to the second building is 310 feet. The angle between the lines of sight to the two buildings is 48° . Find the distance between the buildings.
- Find the area of a community garden on a triangular plot of land that has sides of length 24 feet, 31 feet, and 43 feet.
- Find the area of the triangle from problem # 7.

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3. _____

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4. _____

8. _____

9. _____

10. _____

11. _____