Applications of Right Triangle Trigonometry

Right Triangle Word Problems

1. Read the problem carefully.
2. Draw and label the triangle.
3. Set up the equation.
4. Solve the equation.
5. Write a therefore statement.

1

A boy who is flying a kite lets out 300 feet of string which makes an angle of 60° with the ground. Assuming that the string is stretched taut, find, to the *nearest foot*, how high the kite is above ground.

2

A 40ft flag pole has a rope tied from to top to the ground. The rope makes a 25 degree angle with the ground. How long is the rope?

3

An airplane rises at an angle of 15° with the ground. Find, to the *nearest 10 feet*, the distance it has flown when it has covered a horizontal distance of 1500 feet.

4

In an isosceles triangle ABC, AC and CB are each 15 inches. Angle A and angle B are both 55^{o}. Find the length of AB, to the *nearest inch*.

5

In rectangle ABCD, diagonal AC, which is 20 inches in length, makes an angle of 35^{o} with the base AB.

a. Find AB, the base of the rectangle, to the *nearest tenth of an inch.*

b. Find CB, the altitude of the rectangle, to the *nearest tenth of an inch.*

6

An airplane A is 1000 feet above the ground and directly over a church C. The angle of elevation of the plane as seen by a boy at a point A on the ground some distance from the church is 22 degrees.

a. How far, to the *nearest foot,* is the boy is from the church?

b. How far, to the *nearest foot,* is the boy from the plane?