

Trig Word Problems – Angles of Elevation and Depression

1. From the top of a cliff 300 feet high, the angle of depression of a boat measure 45° , how far is the boat from the cliff?
2. The pilot of an airplane flying at 20,000 feet sees the angle of depression to the airport is 30° , how far (horizontally) is the plane from the airport?
3. Tom is 6 feet tall, when he stands 100 feet from the base of a flagpole, the angle of elevation to the top of the pole is 30° , what is the height of the pole?
4. The angle of elevation of the sun at a certain time is 30° . Find the length of a shadow of a man who is 6 feet tall.
5. From his apartment window, Bob can see the top of a nearby office building, as he looks up, his angle of elevation is 45° , while when he looks down he can see the base of the office building, his angle of depression is 30° . If his apartment is 40 feet above ground, how tall is the office building?
6. A lighthouse is 180 feet tall. From its top, the angle of depression of a buoy is 20° , how far is the lighthouse to the buoy?
7. A man on a top of a hill 200 feet above a lake saw two boats in a line, the angles of depression for the boats were 25° and 15° respectively, how far were the boats apart?