

SOH-CAH-TOA

$$\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}}$$

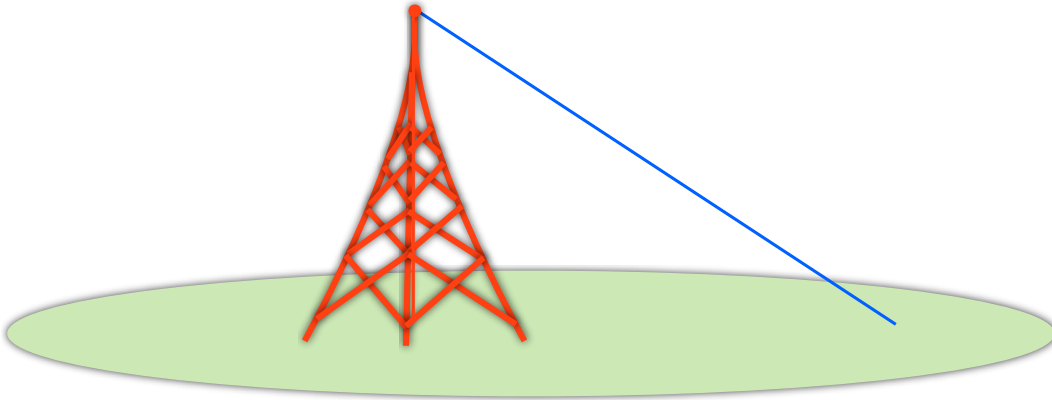
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$$\tan \theta = \frac{\text{opposite}}{\text{adjacent}}$$

A **boat** offshore of New York City sees the Statue of Liberty, which is 305 ft tall. If the **angle** of elevation from the boat to the top of the Statue of Liberty is 18° , how far away is the boat from the Statue of Liberty.



A tower is 320 ft tall has a guy wire that makes an angle of 32° with the ground. How long is the guy wire and how far away is the tower from base of guy wire?



An **observer** is **500 ft** from a building. A **statue** sits on top of a building. The angle of elevation to the base of the **statue** is **32.5°** . The angle of elevation to the top of the **statue** is **33.8°** . How tall is the **statue**?



A blimp is flying at an altitude of 650 ft. Looking north the blimp sees a stadium with an angle of depression of 23° . Looking south the blimp sees an airport at an angle of depression of 17° . How far is the stadium from the airport?



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