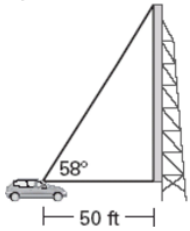
Name _____

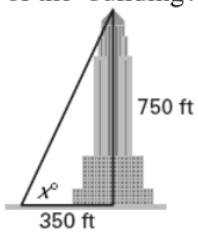
Angles of Elevation and Depression

Solve each problem. Round angles to the nearest degree and segments to the nearest tenth.

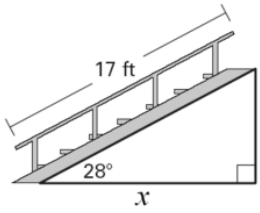
1. You are 50 ft from the screen at a drive-in movie. The angle of elevation to the top of the screen is 58°. How tall is the screen?



2. You are standing 350 feet away from a skyscraper that is 750 ft tall. What is the angle of elevation from you to the top of the building?

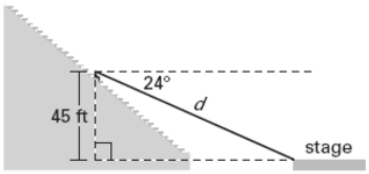


3. A staircase has an angle of elevation of 28° and covers a total distance of 17 feet. What is the horizontal length covered by the staircase?

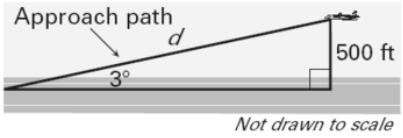


4. A chair lift on a ski slope has an angle of elevation of 28° and covers a total distance of 4640 feet. What is the vertical height covered by the chair lift?

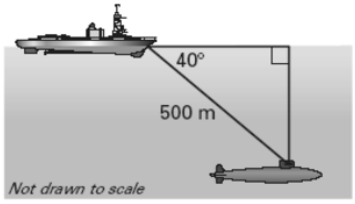
5. You sit in the bleachers at a concert. The angle of depression from your horizontal sight to the stage is 24°. If your seat is 45 feet above the stage level, what is your actual distance **d** from the stage?



6. An airplane preparing to land is on an approach path that forms a 3° angle with the runway. What is the distance along this approach path to your touchdown point when you are 500 ft above the ground?



7. A sonar operator on a ship detects a submarine at a distance of 500 meters and an angle of depression of 40°. How deep is the submarine?



8. At 2 P.M., the shadow of a lighthouse is 19 feet long and the angle of elevation is 75°. Find the height of the lighthouse.