## In-class Problems for Section 4.8

Math 1060-1

1. The sun is $30^{\circ}$ above the horizon. Find the length of the shadow cast by a telephone pole that is 25 feet high.
2. The length of the shadow of a building is 100 feet when the angle of elevation of the sun is $25^{\circ}$. What is the height of the building?
3. A GPS satellite orbits 8500 miles above the Earth's surface. Find the angle of depression from the satellite to the horizon. Assume the radius of the Earth is 4000 miles.
4. A passenger in an airplane at an altitude of 10 kilometers sees two towns directly east of the plane. The angles of depression to the towns are $28^{\circ}$ and $55^{\circ}$. How far apart are the towns?
