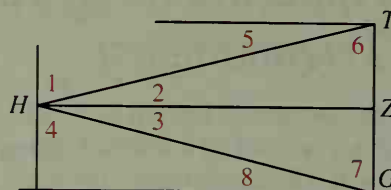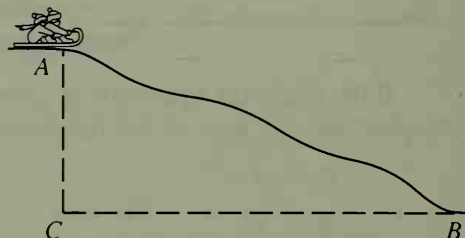The lines shown are horizontal and vertical lines except for $\overleftrightarrow{HT}$ and $\overleftrightarrow{HG}$. Give the number of the angle and its special name when:

2. A person at H sights T.

3. A person at H sights G.

4. A person at T sights H.

5. A person at G sights H.

6. A driveway has a 15% grade.
   a. What is the angle of elevation of the driveway?
   b. If the driveway is 12 m long, about how much does it rise?

7. A toboggan travels from point A at the top of the hill to point B at the bottom. Because the steepness of the hill varies, the angle of depression from A to B is only an approximate measure of the hill's steepness. We can, however, think of this angle of depression as representing the average steepness.
   a. If the toboggan travels 130 m from A to B and the vertical descent AC is 50 m, what is the approximate angle of depression?
   b. Why is your answer approximate?

Written Exercises

Express lengths correct to the nearest integer and angles correct to the nearest degree. Use a calculator or the table on page 311.

A   1. When the sun's angle of elevation is 57°, a building casts a shadow 21 m long. How high is the building?

2. At a certain time, a vertical pole 3 m tall casts a 4 m shadow. What is the angle of elevation of the sun?