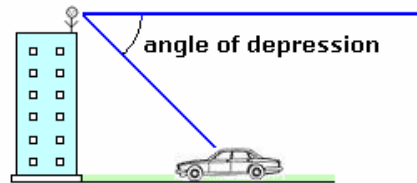


Section 2.7 Problems with More than one Triangle

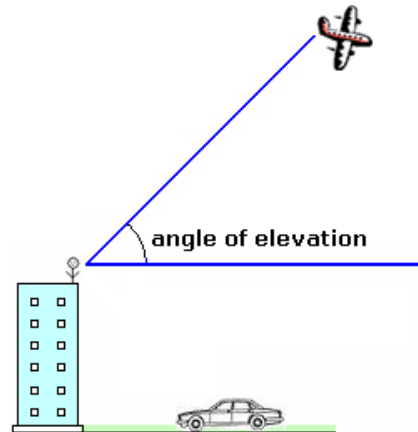
Definition:

The **angle of depression** of an object below the horizontal is the angle between the horizontal and the line of sight from an observer.



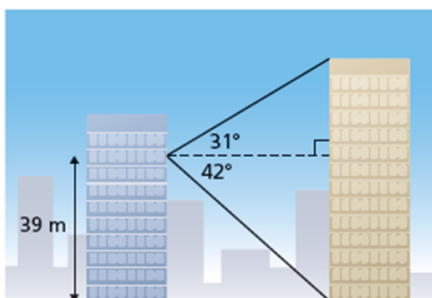
Remember:

The **angle of elevation** looks up!
It goes above the horizontal.

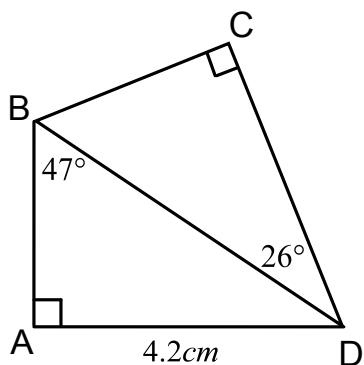


Example 1

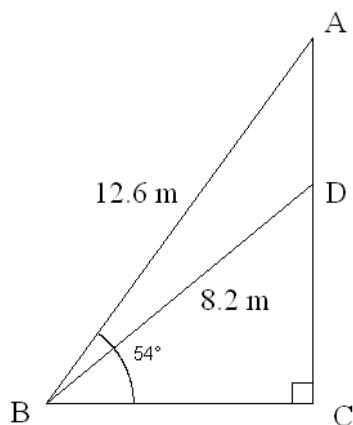
A surveyor stands at a window on the 9th floor of an office tower. He uses a clinometer to measure the angles of elevation and depression of the top and the base of a taller building. The surveyor sketches this plan of his measurements. Determine the height of the taller building to the nearest tenth of a meter.



Example 2 What is the length of CD to the nearest tenth of a centimeter?

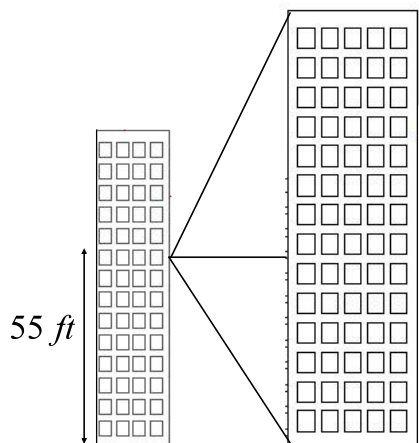


Example 3 What is the length of AD?



Example 4 Your Turn

Two buildings are separated by an alley. Joan is looking out of a window 55 ft above the ground in one building. She estimates the angle of depression to the base of the second building to be 28° and the angle of elevation to the top of the building to be 50° . How tall is the second building?

**Work Book Questions**

p.119-120 #3b, 4b, 5b, 8ab, 9, 11,
14ab

Extra Practice Questions

p.119-120 #3acd, 4acd, 5acd, 6,
13abc