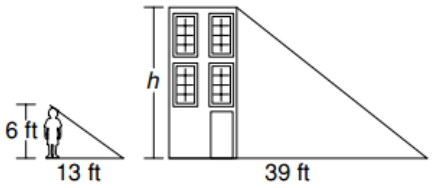
7.3 Indirect Measurement

1. Use similar triangles to find the height of the building.

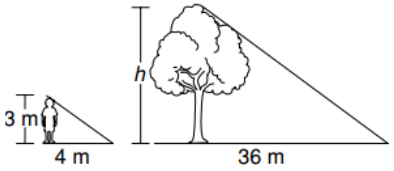


2. A lamppost casts a shadow that is 15 yd long. A 3-foot-tall mailbox casts a shadow that is 5 yd long. How tall is the lamppost?

3. A building casts a shadow that is 420 m long. At the same time, a person who is 2 m tall casts a shadow that is 24 m long. How tall is the building?

4. A pole casts a shadow that is 21 ft long. A 3-feet-tall child standing next to the pole casts a shadow that is 9 ft long. How tall is the pole?

5. Use similar triangles to find the height of the tree.



6. An 8-foot-tall statue stands in the park and casts a shadow that is 16 ft long. A dog stands next to it and is 3 ft tall. How long is the dog's shadow?

7. On a sunny day around noon, a tree casts a shadow that is 12 ft long. At the same time, a person who is 6 ft tall standing beside the tree casts a shadow that is 2 feet long. How tall is the tree?

8. Jeremy has two trophies next to each other sitting in the window of his room. His football trophy is 7 in. tall and his basketball trophy is 13 in. tall. As the light shines in, the basketball trophy's shadow measures 26 in. How long is the football trophy's shadow?

Taken from Holt, Rinehart and Winston