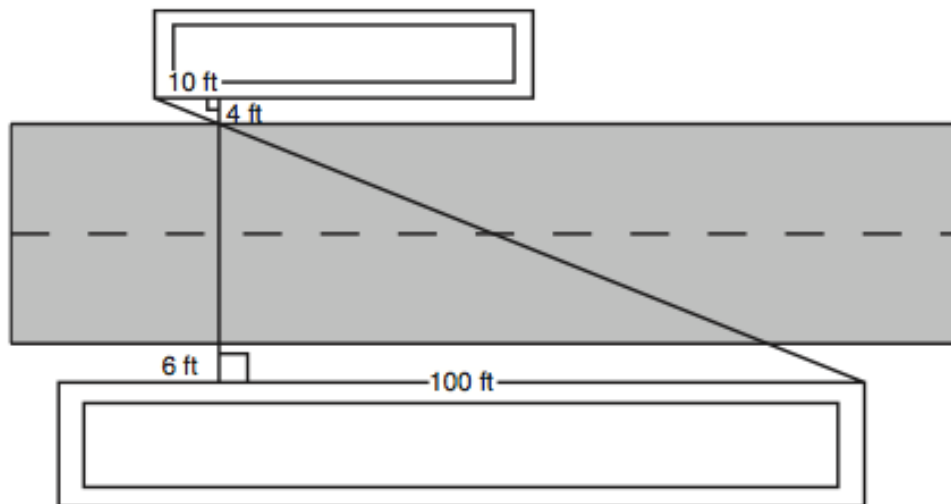
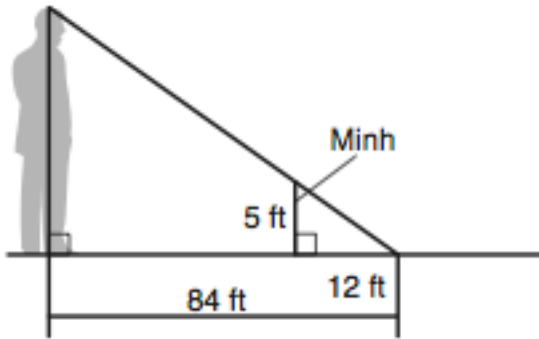


1. You want to measure the height of a tree at the community park. You stand in the tree's shadow so that the tip of your shadow meets the tip of the tree's shadow on the ground, 2 meters from where you are standing. The distance from the tree to the tip of the tree's shadow is 5.4 meters. You are 1.25 meters tall. Draw a diagram to represent the situation. Then, determine the height of the tree.

2. You and a friend are on the 10th floor of apartment buildings that are across the street from each other, and have balconies. The two of you are making a banner to hang between the apartment buildings. The banner must cross the street. To hang the banner, you and your friend need to attach it to hooks on the wall of each balcony. The wall of your balcony is 6 feet away from the street and the wall of your friend's balcony is 4 feet away from the street. You also know that your friend's balcony is 10 feet away from the end of his building and your balcony is 100 feet away from the edge of your building. How wide is the street between you and your friend's apartment buildings? How long does the banner need to be? Show all your work and use complete sentences in your answer.

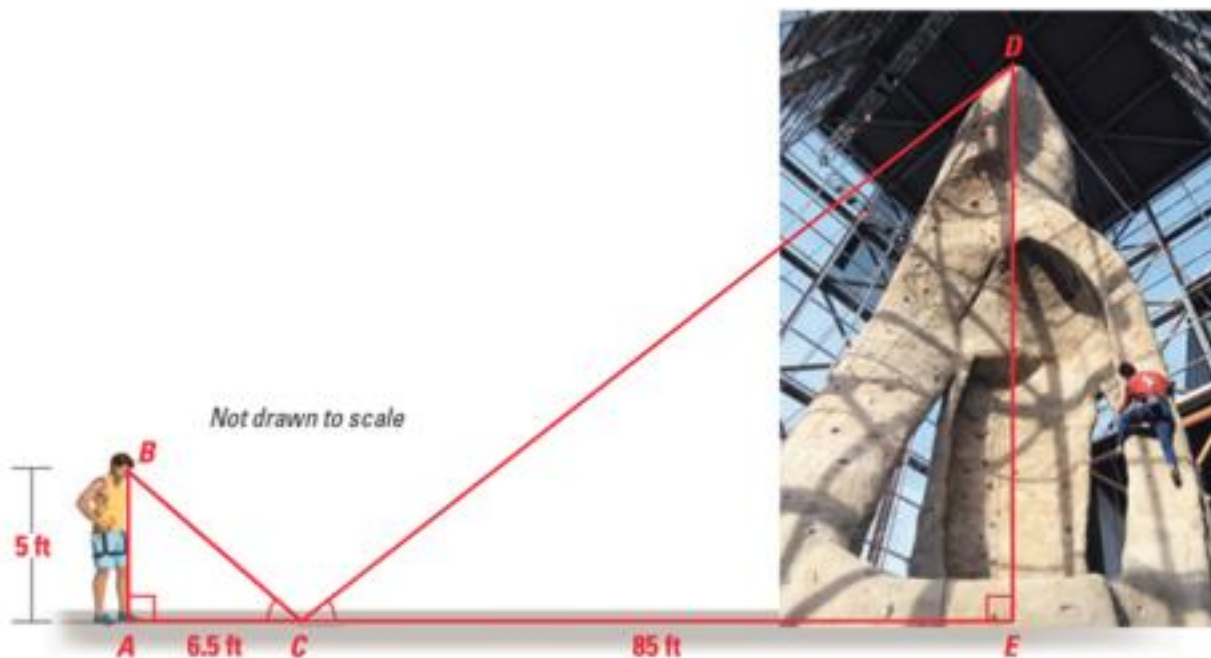


3. Minh wanted to measure the height of a statue. She lined herself up with the statue's shadow so that the tip of her shadow met the tip of the statue's shadow. She marked the spot where she was standing. Then, she measured the distance from where she was standing to the tip of the shadow, and from the statue to the tip of the shadow.

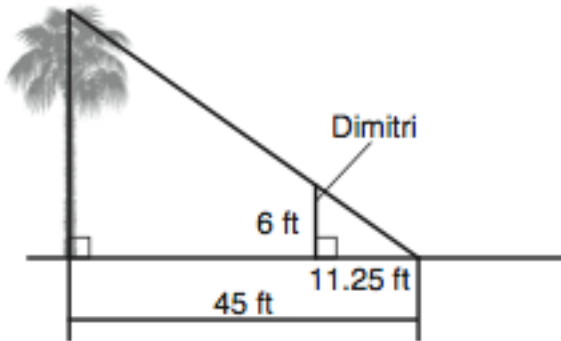


What is the height of the statue?

4. You are at an indoor climbing wall. To estimate the height of the wall, you place a mirror on the floor 85 feet from the base of the wall. Then you walk backward until you can see the top of the wall centered in the mirror. You are 6.5 feet from the mirror and your eyes are 5 feet above the ground. Use similar triangles to estimate the height of the wall.

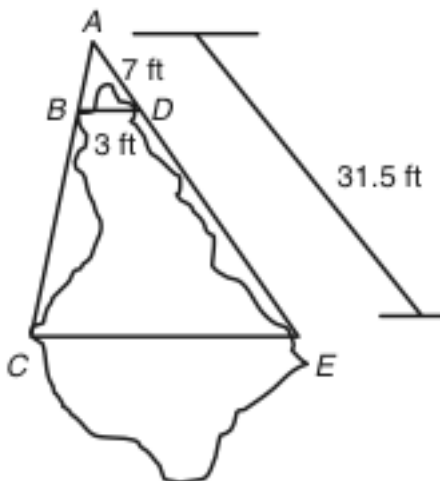


5. Dimitri wants to measure the height of a palm tree. He lines himself up with the palm tree's shadow so that the tip of his shadow meets the tip of the palm tree's shadow. Then, he asks a friend to measure the distance from where he was standing to the tip of his shadow and the distance from the palm tree to the tip of its shadow.



What is the height of the palm tree?

6. Shira finds a tidal pool while walking on the beach. She wants to know the maximum width of the tidal pool. Using indirect measurement, she begins by marking the points A , C , and E . Shira measures the distances shown on the image. Next, Shira marks point B along AC and point D along AE , such that BD is parallel to CE .



What is the distance across the tidal pool at its widest point?

Selected Answers

1. 3.375 m
3. 35 ft
5. 24 ft