

# Act. #33 (cont.)

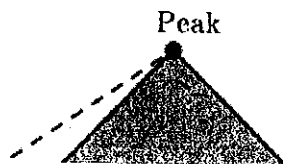
13

Lisa is 800 meters from the base of a mountain. From where she stands, she measures the angle of elevation to the peak of the mountain to be  $38^\circ$ . She then walks to the base of the mountain and measures the new angle of elevation, this time getting 49.

How far is Lisa from the peak of the mountain when she is standing at its base?

m

Round your answer to the nearest meter



14

James is standing 10 meters away from Samantha.

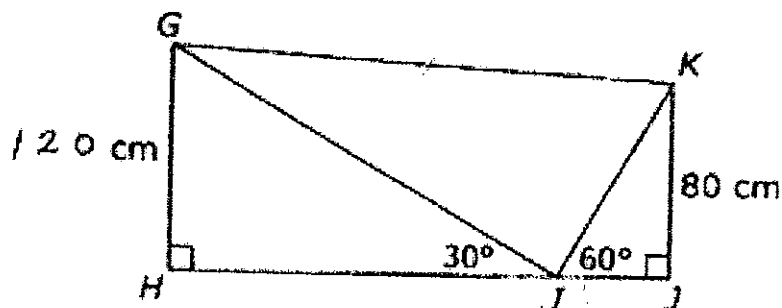
- A bird is located in the sky at a point between where James and Samantha are standing.
- James is looking up at the bird at an angle of elevation of  $74^\circ$ .
- Samantha is looking up at the bird at an angle of elevation of  $47^\circ$ .

**Approximately** how far is the bird from Samantha?

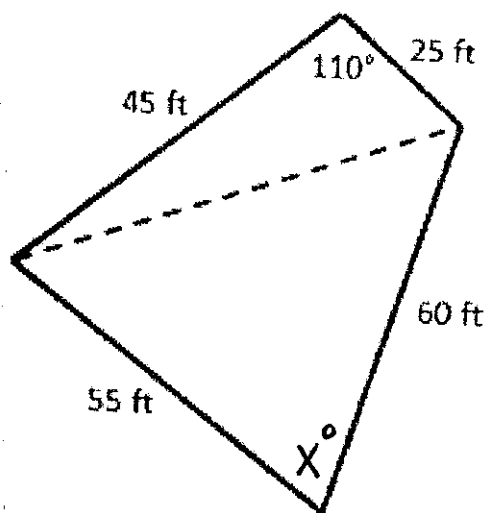
- A 7.6 meters
- B 8.5 meters
- C 11.2 meters
- D 13.1 meters

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What is the **approximate** length of  $\overline{HJ}$  in the diagram below?



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17

Juan and Romella are standing at the seashore 10 miles apart. The coastline is a straight line between them. Both can see the same ship in the water. The angle between the coastline and the line between the ship and Juan is 35 degrees. The angle between the coastline and the line between the ship and Romella is 45 degrees. How far is the ship from Juan?

18

Jack is on one side of a 200-foot-wide canyon and Jill is on the other. Jack and Jill can both see the trail guide at an angle of depression of 60 degrees. How far are they from the trail guide?

19

Tom, Dick, and Harry are camping in their tents. If the distance between Tom and Dick is 153 feet, the distance between Tom and Harry is 201 feet, and the distance between Dick and Harry is 175 feet, what is the angle between Dick, Harry, and Tom?

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Three boats are at sea: Jenny one (J1), Jenny two (J2), and Jenny three (J3). The crew of J1 can see both J2 and J3. The angle between the line of sight to J2 and the line of sight to J3 is 45 degrees. If the distance between J1 and J2 is 2 miles and the distance between J1 and J3 is 4 miles, what is the distance between J2 and J3?