

5. A person stands at the window of a building so that his eyes are 12.6 m above the level ground. An object is on the ground a horizontal distance of 58.5 m away from the building. Compute the angle of depression of the person's line of sight to the object on the ground.

6. A ramp is needed to allow vehicles to climb a 2 foot wall. The angle of elevation in order for the vehicles to safely go up must be 30° or less, and the longest ramp available is 5 feet long. Can this ramp be used safely?

7. Roof trusses often use right triangles to make a flimsy 2 x 4 more rigid to hold up the weight of the roof. If a house is 40 feet wide and the roof is an isosceles triangle with base angles of 30° , how far is it from the bottom edge of the roof to the peak?

8. You are 6 feet tall and you spot a cat up in a tree. When you are 25 feet from the tree, the angle of elevation from your eyes to the cat is 45° . How high off the ground is the cat?

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| 1. | 78.8 ft |
| 2. | 59.3 m |
| 3. | 5.7° |
| 4. | 68.2° |
| 5. | 12.2° |
| 6. | Yes (23.6°) |
| 7. | 11.5 ft |
| 8. | 31 ft |

Triangles