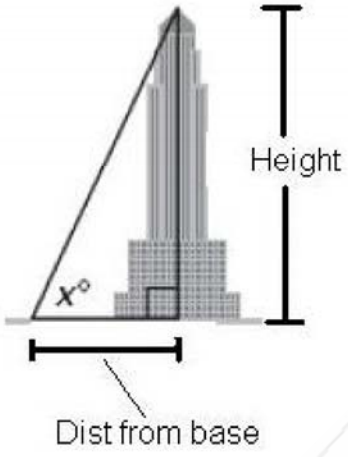
Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Angle of Elevation and Depression

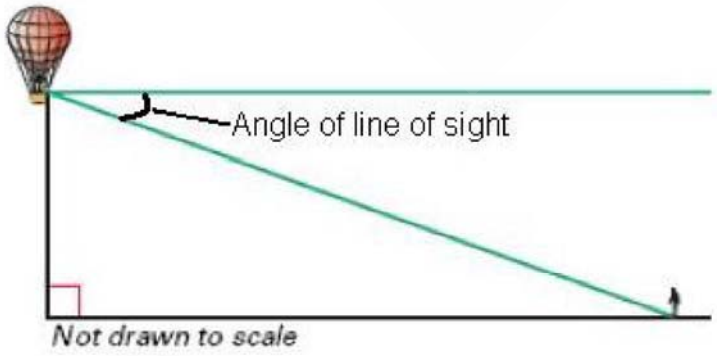
Multiple Choice
Identify the choice that best completes the statement or answers the question.

___ 1. Find the angle of elevation if you are standing 389 feet from the base of building that has a height of 942 feet. The picture below is not drawn to scale; it is for reference only.



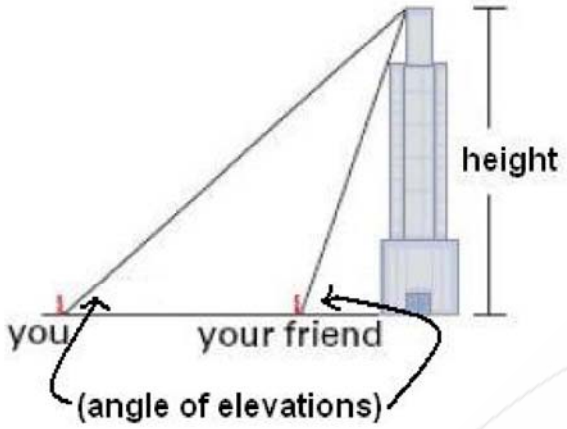
a. 67.56^0
b. 68.12^0
c. 67.75^0
d. 67.27^0

___ 2. You are in a hot air balloon that is 833 feet above the ground where you can see your friend. If the angle from your line of sight to your friend is 25^0, how far is he from the point on the ground below the hot air balloon?



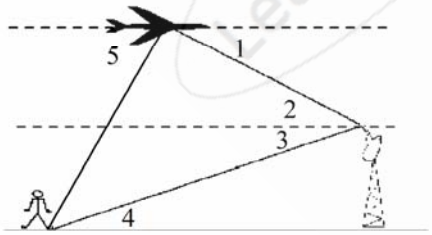
a. 1785.93 feet
b. 1786.37 feet
c. 1786.76 feet
d. 1786.19 feet

___ 3. You are a block away from a skyscraper that has a height of 973 feet. Your friend is between the skyscraper and yourself. The angle of elevation from your position to the top of the skyscraper is 41 degrees. The angle of elevation from your friend's position to the top of the skyscraper is 75 degrees. How far are you from your friend? The picture below is not drawn to scale; it is for reference only.



a. 859.02 feet
b. 858.77 feet
c. 858.59 feet
d. 858.36 feet

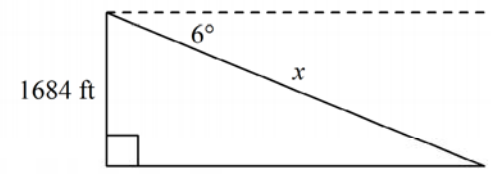
___ 4.



What is the description of ∠2 as it relates to the situation shown?

a. ∠2 is the angle of elevation from the radar tower to the airplane.
b. ∠2 is the angle of depression from the radar tower to the airplane.
c. ∠2 is the angle of elevation from the airplane to the radar tower.
d. ∠2 is the angle of depression from the airplane to the radar tower.

____ 5. To approach the runway, a pilot of a small plane must begin a 6° descent starting from a height of 1684 feet above the ground. To the nearest tenth of a mile, how many miles from the runway is the airplane at the start of this approach?

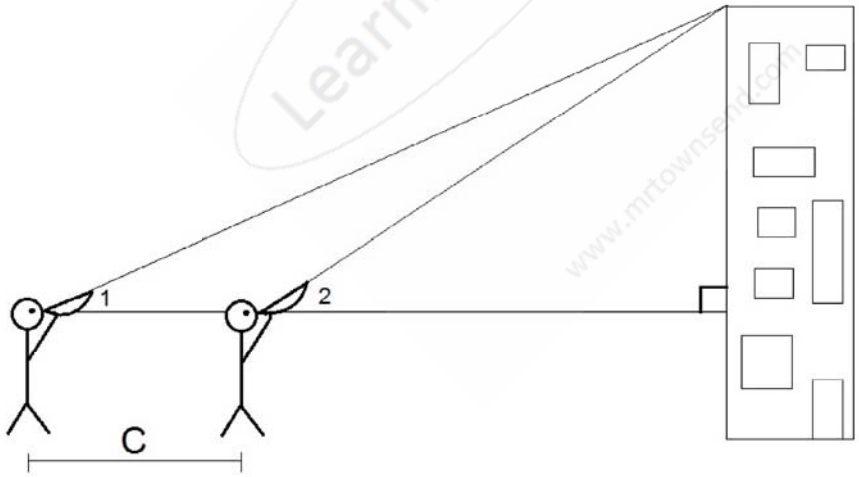


Not drawn to scale

a. 3 mi b. 16,110.4 mi c. 3.1 mi d. 0.3 mi

Numeric Response

6. You and your buddy are using inclinometers to find the height of various buildings. In the picture below that may not be drawn to scale, the measure of angle 1 is 22 degrees and the measure of angle 2 is 30 degrees. The distance between you and your buddy is 47 feet as shown with, "C". If your eyes are exactly five feet off the ground and the building is on level ground with both of you, how tall is the building? Express your answer rounded to the nearest hundredth of a foot.



Angle of Elevation and Depression
Answer Section

MULTIPLE CHOICE

1. A
2. B
3. C
4. A
5. C

NUMERIC RESPONSE

6. 68.25 feet