Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period \_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| angle of elevation | angle of depression |

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| --- | --- |
| **1.** | An 8‑foot ladder leaning against a wall makes an angle of 74° with the ground. How high up the wall does the ladder go? |
| **2.** | A 12‑foot ladder goes 10 feet up a wall. What angle does the ladder make with the ground? |
| **3.** | Alex is standing in the crow’s nest of a ship, 500 feet away from a lighthouse. The angle of incline is 5°. How high above Alex is the top of the lighthouse?  If Alex’s eye is 30 feet above sea level, how high above sea level is the top of the lighthouse? |
| **4.** | What is the angle of elevation of a staircase that rises 7 inches for every 10 inches of horizontal “run”? |
| **5.**  **6.** | The angle of depression on I‑24 in Mont Eagle, Tennessee is 4°. For every mile of road (diagonally), what is the change in height in miles? In feet?  The Georgia Scorcher travels over 200 feet of track (diagonally) to rise 107 feet during the initial climb. What is the horizontal distance traveled during this climb? What is the angle of elevation? |
|  |  |
| **7.** | Macintosh HD:Users:lhetherington:Desktop:Screen Shot 2017-01-20 at 2.35.18 PM.pngFrom the top of a 100 ft. tall building, a man observes a car moving toward the building. If the angle of depression of the car changes from  to  during the period of observation, how far does the car travel? |
| **8.** | Macintosh HD:Users:lhetherington:Desktop:Screen Shot 2017-01-20 at 2.35.33 PM.pngA large, helium filled balloon is moored at the beginning of a parade route. Two cables attached to the underside of the balloon make angles of  and  with the ground and are in the same plane as a perpendicular line from the balloon to the ground. If the cables are attached to the ground 10 ft from each other, how high above the ground is the balloon? |