Unit 3 Intro to Trig: Test Review











**Angles of Elevation & Depression**

Draw a picture, write a trig ratio equation, and then solve each problem. Round answers to the nearest tenth.

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| \_\_\_\_\_\_\_\_ An escalator from the ground floor to the second floor of a department store is 110 ft long and rises 32 ft. vertically. What is the escalator’s angle of elevation?110 32 | \_\_\_\_\_\_\_\_ From the top of a lighthouse 210 feet high, the angle of depression of a boat is 27°. Find the distance from the boat to the foot of the lighthouse. The lighthouse was built at sea level. |
| \_\_\_\_\_\_\_\_ A person at one end of a 230-foot bridge spots the river’s edge directly below the opposite end of the bridge and finds the angle of depression to be 57°. How far below the bridge is the river? | \_\_\_\_\_\_\_\_ An airplane rises vertically 1000 feet over a horizontal distance of 5280 feet. What is the angle of elevation of the airplane’s path? |
| \_\_\_\_\_\_\_\_ A radio tower 200 ft. high casts a shadow 75 ft. long. What is the angle of elevation of the sun? | .\_\_\_\_\_\_\_\_A person in an apartment building sights the top and bottom of an office building 500 ft. away. The angle of elevation for the top of the office building is 23° and the angle of depression for the base of the building is 50°. How tall is the office building? |
| \_\_\_\_\_\_\_\_ A rescue team 1000 ft. away from the base of a vertical cliff measures the angle of elevation to the top of the cliff to be 70°. A climber is stranded on a ledge. The angle of elevation from the rescue team to the ledge is 55°. How far is the stranded climber from the top of the cliff?  | \_\_\_\_\_\_\_\_ A ladder on a fire truck has its base 8 ft. above the ground. The maximum length of the ladder is 100 ft. If the ladder’s greatest angle of elevation possible is 70°, what is the highest above the ground that it can reach? |