Lesson 9.7 Practice: Angles of Elevation and Depression

School Launch · Geometry · Unit 9: Right Triangles and Trigonometry · Worksheet A

Calculator allowed

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. Caleb stands 82 ft from a building and sees its top at an angle of elevation of $24°$ (eye level ignored). How tall is the building (nearest tenth)? EASY

2. Isaac stands 116 ft from a building and sees its top at an angle of elevation of $18°$ (eye level ignored). How tall is the building (nearest tenth)? EASY

3. Samuel stands 30 ft from a building and sees its top at an angle of elevation of $67°$ (eye level ignored). How tall is the building (nearest tenth)? EASY

4. Esther stands 162 ft from a building and sees its top at an angle of elevation of $11°$ (eye level ignored). How tall is the building (nearest tenth)? MEDIUM

5. Ruth stands 107 ft from a building and sees its top at an angle of elevation of $70°$ (eye level ignored). How tall is the building (nearest tenth)? MEDIUM

6. Esther stands 170 ft from a building and sees its top at an angle of elevation of $49°$ (eye level ignored). How tall is the building (nearest tenth)? MEDIUM

7. Lydia stands 208 ft from a building and sees its top at an angle of elevation of $52°$ (eye level ignored). How tall is the building (nearest tenth)? MEDIUM

8. From the top of a 246-ft lighthouse, the angles of depression to two boats in line with it are $37°$ and $65°$. How far apart are the boats (nearest foot)? HARD

9. From the top of a 265-ft lighthouse, the angles of depression to two boats in line with it are $37°$ and $53°$. How far apart are the boats (nearest foot)? HARD

10. From the top of a 142-ft lighthouse, the angles of depression to two boats in line with it are $30°$ and $68°$. How far apart are the boats (nearest foot)? HARD