Trigonometry Word Problems

| Right | Triangle | Trigonometry |
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1. A tree casts a shadow 23 feet long when the angle of elevation of the sun is 62°. How tall is the tree?

2. In designing a new building, a doorway is 3.5 feet above the ground. A ramp for the disabled is to be built to the doorway at an angle of 6° with the ground. How long will the ramp be?

| 3. | An antenna is on top of a building. From a point 7,000 feet from the building, the angles of elevation to the top and bottom of the antenna are 10.2° and 8° respectively. How tall is the antenna? |
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| <u>La</u> | aw of Sines |
| 4. | When an airplane is landing on a 9,000-foot runway, the angles of depression to the ends of the runway are 10° and 12°. How far is the plane from the far end of the runway? |
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| 5. | A flagpole is located on a slope that makes an angle of 20° with the horizontal. shadow down the hill when the angle of elevation to the top of the pole is 45° . | |
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| La | w of Cosines | |
| 6. | On a baseball field, the four bases are located at the vertices of a square 90 feed mound is 60.5 feet from home plate, how far is the mound from first base? | t on each side. If the pitcher's |
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| 7. | Two ships leave a port at 9:00 AM. One ship travels at a bearing of N50°W at a speed of 14 miles per hour and the other travels at a bearing of S65°W at a speed of 18 miles per hour. How far apart are the ships at noon? | | | | | |
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