

Flash Cards: Trigonometric Ratios in Real-Life Problems

Directions: Answer the following.

1. A ramp makes a 37° angle with the ground. If the length of the ramp is 6.5 ft, how high off the ground is the top?
2. A street lamp is shining at an angle of depression of 52° . What is the height of a person who makes a 5.2 ft shadow?
3. The sun is shining at an angle of depression of 47° . What is the length of a shadow of a 5.8 ft tall woman?

Answers:

1. Sine of 37 degrees equals x divided by 6.5. 6.5 times sine of 37 degrees equals x . 3.91 is approximately equal to x . The top of the ramp is approximately 3.91 ft off the ground.
2. Tangent of 52 degrees equals x divided by 4.8. 4.8 times tangent of 52 degrees equals x . 6.14 is approximately equal to x . The person is approximately 6.14 ft tall.
3. Tangent of 47 degrees equals 5.8 divided by x . x times tangent of 47 degrees equals 5.8. x equals 5.8 divided by tangent of 47 degrees which is approximately equals to 5.41. The woman's shadow is approximately 5.41 ft long.