6.10 Stations Activity

1. Jared is casting his fishing line with a lead sinker attached over the edges of a pier. The pier is 15 feet above the water. The function h = −16t2 + 15 gives the sinker’s height h above the water (in feet) after t seconds. Graph the function. How many seconds does it take for the sinker to hit the water?
2. The product of two consecutive positive odd integers is 1023. What are the integers?
3. The height of a triangle is 6x cm and the base is (3x + 10) cm. The area of the triangle is 816 cm2. What are the dimensions of the base and height of the triangle?
4. The volume of a storage tub shaped like a rectangular prism is 24 ft3. The height of the tub is 3 feet. The width is w feet and the length is w + 2 feet. Use the formula V = lwh to find the value of w.
5. The area of a parking lot is 2475 ft2. The rectangular parking lot has dimensions such that the length is 10 feet longer than the width. What are the dimensions of the parking lot?
6. A baseball player hit a ball with an upward velocity of 46 ft/s. Its height *h* in feet after *t* seconds is given by the function *h =* −16*t*2 + 46*t +* 6. What is the maximum height the ball reaches? How long will it take the baseball to reach the maximum height? How long does it take for the ball to hit the ground?