**Answer on question 36946 – Math – Algebra**

Gravity on the moon is about one- sixth of gravity on Earth. An astronaut standing on a tower 20 feet above the moon's surface throws a ball upward with a velocity of 30 feet per second. The height of the all at any time t (in seconds) is h(t) = -2.67t^2 + 30t + 20. To the nearest tenth of a second, how long will it take for the ball to hit the ground?

**Solution**

In another word we should find the time when h(t) equals 0. Therefore we get equation

$$-2.67t^2 + 30t + 20 = 0$$

$$D = 900 + 4 * 20 * 2.67 = 1113.6$$

$$t_1 = \frac{-30 - \sqrt{1113.6}}{-2 * 2.67} \approx 11.9\ sec.$$

$$t_2 = \frac{-30 + \sqrt{1113.6}}{-2 * 2.67} < 0.$$

**Answer:** 11.9 sec.