4. [8 points] Let $h(t)$ be the height (in meters) of a roller coaster carriage above the ground during a roller coaster ride, t seconds after the ride starts.

a. [2 points] Let $g(t)$ be the height (in **feet**) of the roller coaster carriage above the ground during a roller coaster ride, t seconds after the ride starts. Write a formula for the function g in terms of the function h and the variable t. (1 meter= 3.28 feet)

$g(t) =$_____.

b. [3 points] The roller coaster carriage reaches its highest point p seconds after the ride starts. Write an equation that expresses the following fact:
*Three seconds after the the roller coaster carriage reaches its highest point, its height (***in meters***) above the ground is twice its height at the starting point.*

Equation: _____.

c. [3 points] During a renovation of the amusement park, the following modifications are made to the roller coaster, in the stated order.

1. The starting point of the roller coaster is moved to where the roller coaster carriage would have been 30 seconds into the ride from the old starting point.
2. The entire roller coaster is raised onto a 2 meter high platform.

After the renovation, let $k(t)$ be the height (in **meters**) of the roller coaster carriage above the ground during a roller coaster ride, t seconds after the ride starts. Write a formula for the function k in terms of the function h and the variable t.

$k(t)=$_____.