1. [10 points] Foghorn is a chicken that is learning how to fly. In fact, he trains every day by jumping off the top of his coop and flapping his wings. Today, his height above the ground, in feet, t seconds after jumping is given by the function $h(t) = -16t^2 + 20t + 6$.
Note that once he lands on the ground, he stays on the ground.

    a. [2 points] How long after Foghorn jumps off his coop does he hit the ground?
    Be sure to show your work and give your final answer in exact form.

Answer: _____

    b. [4 points] Use the method of completing the square to put the formula for $h(t)$ into vertex form. *Carefully show your algebraic work step-by-step.*

Answer: $h(t) =$ _____

    c. [2 points] What is the maximum height Foghorn reaches? **Answer:** _____

    When does he reach his maximum height? **Answer:** _____

    d. [2 points] What are the domain and range of $h(t)$ in the context of this problem?
    Use either interval notation or inequalities to give your answers.

Answers: Domain: _____ Range: _____