More Kinematics + Freefall problems

1. A bullet from a rifle with a velocity of 330 m/s is fired into a dense material that stops the bullet in a distance of 30 cm. What is the bullet's acceleration?

    $V_i =$

    $V_f =$

    $d =$

    $a =$

    $t =$

2. A bullet traveling horizontally with a velocity of 350 m/s hits a board and passes through emerging with a speed of 210 m/s. If the thickness of the board is 4.0 cm, how much time does it take for the bullet to pass through?

    $V_i =$

    $V_f =$

    $d =$

    $a =$

    $t =$

3. A student drops a ball from the top of a tall building; it takes 2.8 seconds for the ball to reach the ground.

    a) What was the ball's speed just before hitting the ground?

    $V_i =$

    $V_f =$

    $d =$

    b) What was the height of the building?

    $a =$

    $t =$

4. A Boy throws a stone straight up with an initial speed of 15 m/s.

    a) What is the maximum height the stone reached before it begins to fall back down?

    b) What is the speed of the stone as it hits the ground?

    $V_i =$

    $V_f =$

    $d =$

    c) How long was the stone in the air?

    $a =$

    $t =$