Physics Problem Set 5.4 You can use 10m/s/s for the value of g

$x = v_o t + \frac{1}{2} at^2$

$V_f = v_o + at$ which can be written as $a = (v_f - v_o)/t$

$V_{ave} = \frac{1}{2} (v_f + v_o)$ also $V_{ave} = x/t$ $X = V_{ave} t$

$V_f^2 = v_o^2 + 2ax$

1. This friendly tiger is dropping a ball on planet Tiger, to find the acceleration of gravity on her planet. She recorded in her notebook 📓 that it takes 1 second for a ball, released from rest, to fall 10 meters.

    a. What is the initial speed of the ball (v_o)?

    b. What distance does the ball move (X)?

    c. What is the time the ball moves (t)?

    d. What is the average velocity of the ball (v_{ave})?

    e. What is the final velocity of the ball (v_f)?

    f. What is the ball's acceleration (a)?