Name: _____ Period: _____ Date: _____

StickMan Physics Angry Bird Horizontal Projectile Motion

https://www.stickmanphysics.com/stickman-physics-home/two-dimensional-motion/angry-birds-projectile-motion

Work through our examples checking the solutions on the page. **Show all work** and circle final answers

Q1: How high from the ground is Red if it takes 1.2 seconds to hit the ground when horizontally launched on Earth?

Q2: Red falls 1.45 centimeters on my screen and 7.2 meters on earth. What is 1 centimeters on my screen equal to on Earth?

Q3: How far does Red actually land downrange when he lands 14.2 centimeters away on my screen? (Use the conversion value from Q2)

Q4: What actual velocity is Red flung horizontally if he landed 70.5 meters from the base of the slingshot while falling 7.2 meters on Earth? (Solve this from scratch not using the previous given for time)

Q5: How long would Red take to hit the ground 7.2 meters away if flung at 100 meters per second horizontally on Earth?

Q6: How long would Red take to hit the ground 7.2 meters away if on the Moon where gravity is 1.62 meters per second squared ($g = 1.62\ m/s^2$)?

Q7: How far from the base of the slingshot would Red land when flung horizontally at 52 m/s from a height of 7.2 meters away if on the Moon where gravity is 1.62 m/s^2 ($g = 1.62\ m/s^2$)?