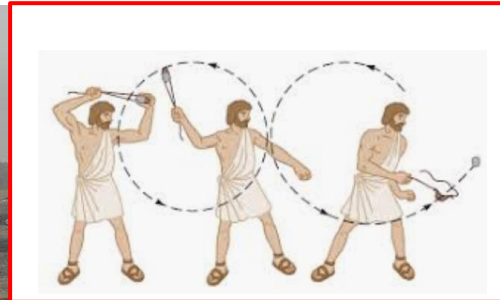
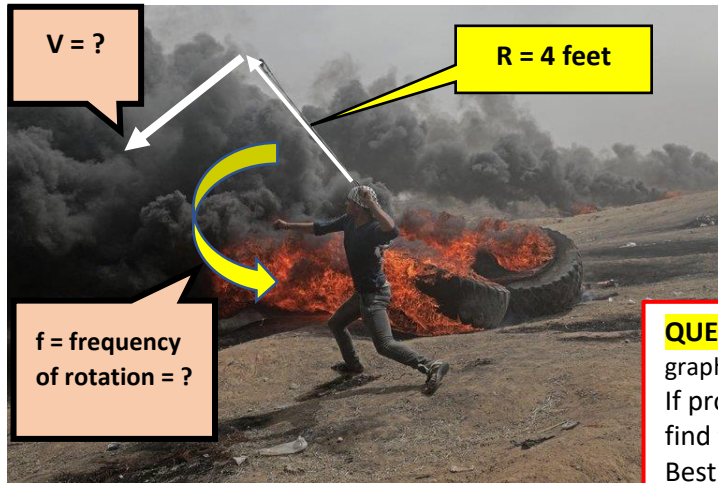


CENTRIPETAL FORCE + PROJECTILES Units 14 & 9

Unit 14 Dr. John P. Cise, Professor of Physics, Austin Com. College, Austin Texas USA jpcise@austincc.edu & New York Times April 20, 2018 by I Kershner & I Abuheweilaa

Gaza Protest Draws Fewer People but Remains Deadly

By ISABEL KERSHNER and IYAD ABUHEWEILA APRIL 20, 2018



QUESTIONS: (a) Projectiles went about 200 meters (see lower left graphic from burning tires to fence, this is about 674 feet). If projectiles were tossed at a 45 degree angle to horizontal, find time of flight and initial speed using projectile concepts? Best way to a solution is break solution down into horizontal and vertical parts.

HINTS: $x = v t$, $y = v_0 t + \frac{1}{2} g t^2$, $g = 32 \text{ ft./s.}^2$

A Palestinian protester during clashes with Israeli security forces near the border east of Gaza City on Friday.

JERUSALEM — They came in smaller numbers. But the outcome was still deadly, and the victims this time included a 15-year-old boy. Palestinians protested for a fourth Friday [along the security fence dividing Gaza from Israel](#), some of them burning tires, hurling rocks or flying kites with flaming tails in the hope of setting ablaze the fields of Israeli rural communities on the other side. The Israeli military distributed a photograph of one kite with a scrawled swastika.

The military estimated the number of participants at about 3,000 in five locations along the Gaza border, down from at least 30,000 on March 30, when the protest campaign started. But by evening the Gaza Health Ministry reported four by Israeli sniper fire. One was identified as Muhammad Ayoub, 15. Amateur video taken on the Gaza side of the fence purported to show him shot while running with other youths, apparently empty-handed. Graphic photographs showed the teenager lying on the rocky ground, bleeding from the head, and later on a hospital gurney. His father, Ibrahim Ayoub, told a local Gaza-based news site: "I thank Allah for taking him as a martyr. This is better than the humiliating life and tragedy we live."

300 Meters in Gaza: Snipers, Burning Tires and a Contested Fence

A fence that divides Israel and Gaza has become the latest flashpoint in the decades-old conflict, with Israeli soldiers unleashing lethal force against mostly unarmed Arab protesters.



QUESTIONS(CONTINUED): (b) Find frequency (in rad./s.) with which the sling is being rotated to attain the velocity found?

HINTS: $v = R \omega$, $\omega = 2\pi f$

ANSWERS: (a) $t = 6.5 \text{ s.}$, $v = 126.9 \text{ ft./s.}$, (b) $f = \sim 0.93 \text{ rps}$

The Friday toll brought the total number of fatalities from the start of the campaign to at least 37. Hundreds more protesters have been wounded by Israeli fire.