Answer on Question #46895, Physics, Other

Task:

A particle of mass mass m strikes a wall with speed v at an angle 30 degree with the wall. The magnitude of impulse imparted to ball by wall is

(1) mv

(2) mv/2

(3) 2mv

(4) squareroot(3)mv

Solution:

the impulse was given perpendicular to the wall. The component of velocity perpendicular is $v\sin 30^0 = \frac{v}{2}$, so change velocity is twice that. Impulse $I = \frac{2mv}{2} = mv$