Kinetic energy or energy in motion depends on the mass and the motion of an object. In formula, KE = 1/2mv^2. An object with 8 m/s has a kinetic energy of 168 joules. how much kinetic energy would it have if its speed were reduced to 2m/s?

a) 10.5 J

b) 21 J

c) 42 J

d) 63 J

Please explain

Answer:

Such as the kinetic energy is: $\mathrm{E_k} = \frac{1}{2}mv^2$, the kinetic energy proportional to a square of velocity. If velocity were reduced from 8 m/s to 2 m/s : $\frac{8}{2} = 4$, the kinetic energy will be: $\frac{168}{4^2} = \frac{168}{16} = 10.5\ J$

Answer: “a”

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