Answer on Question #53045, Physics / Other

Task:

A rock falls form the edge of a cliff height h from the abyss. At the same time another rock is tossed up vertically with initial velocity v. Both rocks will be in the same height after a time interval t.The value of t is...

A.h/v
B.h/2v
C.2v/h
D.3v/h
E.2hv

Answer: A.h/v

h-1/2gt^2 = v*t-1/2gt^2
v*t = h
t=h/v

A car moves with velocity v and it decreases to 1/3 after a distance x because the car's braked.The distance taken from the start until the car stop is...x

A.8/9
B.9/8
C.8/10
D.9/10
E.3

Answer: B.9/8

V^2-(V/3)^2 = 2ax
9V^2 = V^2+18ax
8V^2 = 18ax
a = 4V^2/9x
S=V^2/2a=9x/8

Two electric bulbs of 40W,60V are serially installed,then connected to the source of 60 volt that are able to apply electric current of 0.5A.The magnitude of effective power of the bulbs is...Watt

A.20
B.22.5
C.25
D.30
E.40

Answer: B.22.5

Rb = V^2/P = 60^2/40 = 90 ohm
I = 0.5 A
P = rb*I^2 = 90*0.25 = 22.5 watt