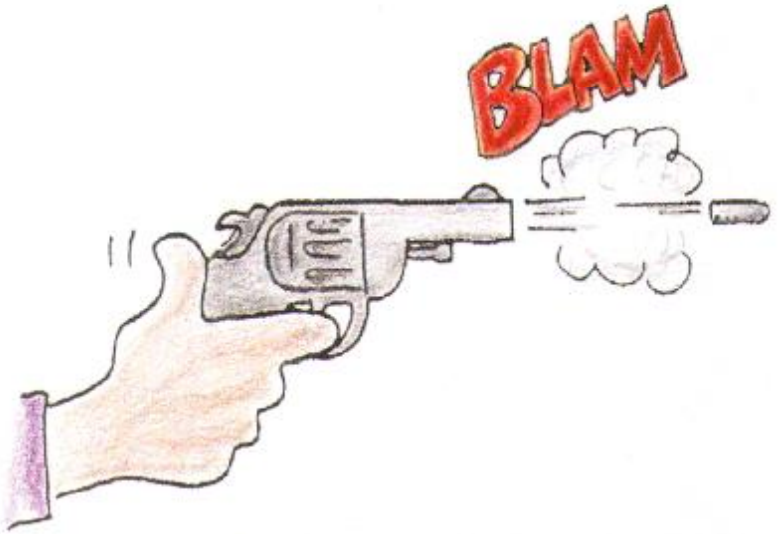
NEXT-TIME QUESTION

Strictly speaking, when a gun is fired, compared with the momentum of the recoiling gun, the opposite momentum of the bullet is

a) less.
b) more.
c) the same.



(Neglect the effect of the hand.)

thanx to David G. Willey

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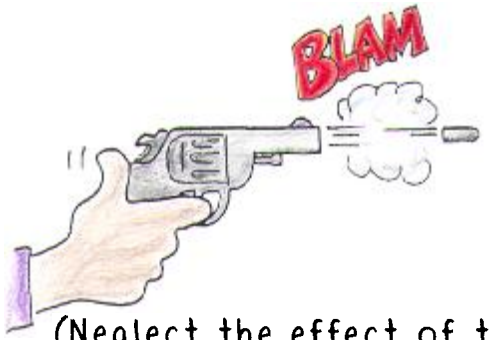
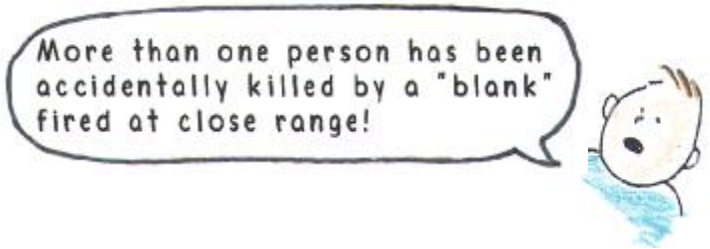


(Neglect the effect of the hand.)

Answer: a

Less. Why? Because more than just a bullet comes out of the barrel when a gun is fired. The gas, formed when the powder in the cartridge burns, pushes the bullet along the barrel and this gas too has appreciable mass and exits at high speed. More than a negligible momentum is given to the gases. So, momentum of recoiling gun = momentum of bullet + momentum of gases.



CONCEPTUAL Physics

ARBOR SCIENTIFIC
TOOLS THAT TEACH.