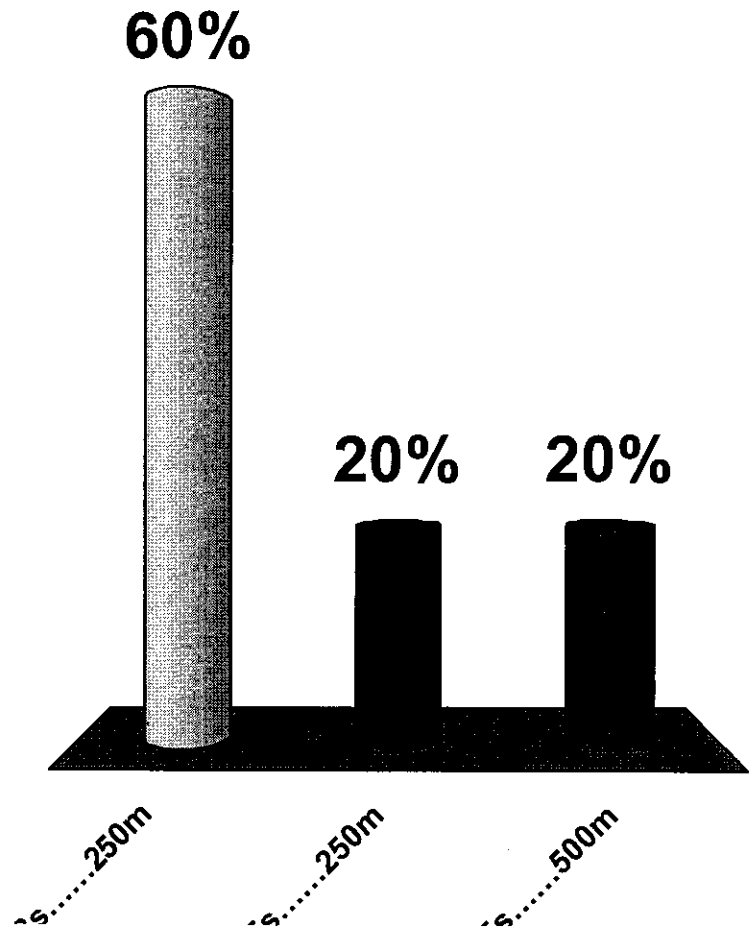
A projectile is fired upward at 45° with velocity v = (v_{xo},v_{yo}) = (50, 50) m/s. It reaches its highest point after ____ seconds and travels ____m before hitting the ground.

1. 3.3s……250m
2. 5s……250m
✔3. 5s……500m



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- 1. 3.3s……250m
- 2. 5s……250m
- 3. 5s……500m CORRECT!
- ***Solution***: Time to top is t_{top}= 50/10 = 5 sec;
  Distance traveled is 2*5*50 =500m
  (mass goes up for 5 sec *and* falls for 5 sec.: need factor 2xT in d = v_{xo}* t_{top})