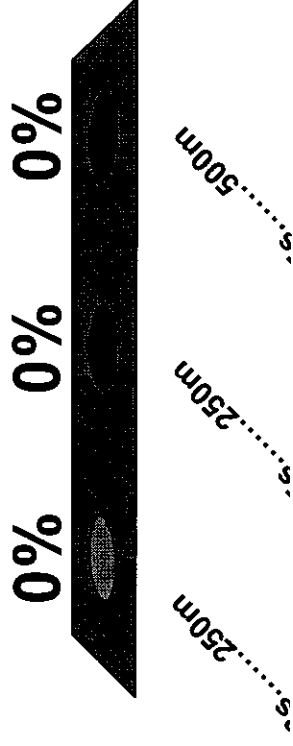


9/22-1

A projectile is fired upward at 45° with velocity $v = (v_{x0}, v_{y0}) = (50, 50)$ 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 $50/10 = 5$ sec;
Distance traveled is $2 \cdot 5 \cdot 50 = 500$ m
(mass goes up for 5 sec and falls for 5 sec.: need factor $2 \times T$ in $d = v_{x0} \cdot t$)