Projectiles Review (Chapter 7) – Answers

Pages 151, 152

Reviewing Concepts #1, 2
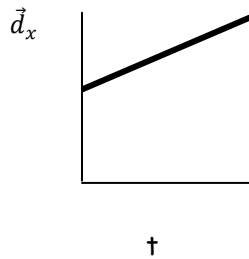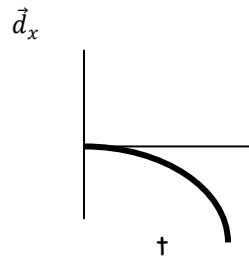
1a.) At A and E.   1b.) The same everywhere.   1c.) At C.   1d.) Parabola.

2.) No, the vertical distance is independent of velocity.
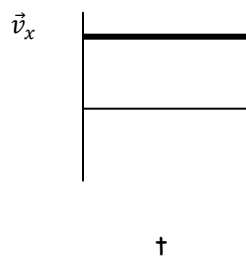
Applying Concepts #2-4

2a.) Time is unaffected by $\vec{v}_{o_x}$ 2b.) The $\vec{d}_x$ will be proportional to $\vec{v}_{o_x}$

3.) The dart will hit the monkey as they both accelerate down at $9.81 \frac{m}{s^2}$.

4.) $6.0\ s$.

Problems #2-6, 8, 10, 11

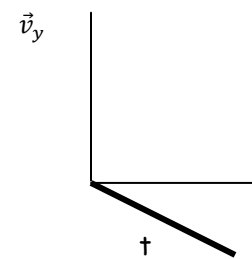2.) $32\ m$ 3a.) $0.500\ s$ 3b.) $0.800 \frac{m}{s}$ 4a.) $33.0\ m$ 4b.) $7.30\ m$

5a.) $14.3\ s$ 5b.) $496\ m$ 6.) $6.60 \frac{m}{s}$ 8a.) $32.0\ m$ 8b.) $210\ m$

10b.) Ahead by one point.   11.) $11.8 \frac{m}{s}$ $(at\ 51^o\ above\ horizontal\ of\ course)$.

Graphs

slope = $\vec{v}_{o_x}$ parabola   horizontal   slope = $-9.81 \frac{m}{s^2}$