

Chapter 13:

13.6 (a) 32.8 mi/h. (b) 142.5 mi/h.

13.10 (a) 8.70 m. (b)  $4.94 \text{ m/s} \nearrow 15^\circ$ .

13.26 (a) 2.32 ft/s. (b) 2.39 ft/s.

13.58 (a) 3.34 ft/s. (b)  $27.7 \text{ ft/s}^2$ .

13.65 (a)  $43.5^\circ$ . (b)  $8.02 \text{ ft/s} \downarrow$ .

13.73  $14.34 \text{ ft/s} \leftarrow$ ,  $13.77 \text{ lb} \uparrow$ .

13.87  $15.65 \times 10^3 \text{ mi/h}$ .

13.95  $v_r = 9.05 \text{ ft/s}$ ,  $v_\theta = 9.14 \text{ ft/s}$ .

13.101  $29.8 \text{ m/s}$ ,  $\Delta v = 29.79 \text{ m/s}$

13.122 (a) 11.42 s. (b)  $-(125.5 \text{ m/s})\mathbf{j} - (194.5 \text{ m/s})\mathbf{k}$ .

13.133:  $t = 0.8155 \text{ sec}$

13.146 (a) A was going faster. (b) 115.2 km/h.

13.166  $\mathbf{v}'_A = 3.00 \text{ m/s} \nearrow 40^\circ$ ,  $\mathbf{v}'_B = 3.00 \text{ m/s} \searrow 40^\circ$ .