Chapter 14:

14.2 (*a*) 10.00 kg. (*b*) 1.200 m/s →.

14.4 (*a*) 2.80 ft/s ←. (*b*) 0.229 ft/s ←.

14.8 0.294 m/s ←.

14.10 (*a*) $(0.600\ \text{m})\mathbf{i} + (1.400\ \text{m})\mathbf{j} + (1.525\ \text{m})\mathbf{k}$.
(*b*) $-(26.0\ \text{kg}\cdot\text{m/s})\mathbf{i} + (14.00\ \text{kg}\cdot\text{m/s})\mathbf{j} + (14.00\ \text{kg}\cdot\text{m/s})\mathbf{k}$.
(*c*) $-(29.5\ \text{kg}\cdot\text{m}^2/\text{s})\mathbf{i} - (16.75\ \text{kg}\cdot\text{m}^2/\text{s})\mathbf{j} + (3.20\ \text{kg}\cdot\text{m}^2/\text{s})\mathbf{k}$.

14.16 $(400\ \text{ft})\mathbf{i} - (258\ \text{ft})\mathbf{j} + (32.0\ \text{ft})\mathbf{k}$.

14.22 (*a*) 6.05 ft/s. (*b*) 6.81 ft/s.

14.34 (*a*) 1116 ft · lb. (*b*) 623 ft · lb.

14.40 $v_A = 7.50$ ft/s, $v_B = 9.19$ ft/s, $v_C = 9.19$ ft/s.

14.42 $\mathbf{v}_A = 12.17$ m/s ∠ 25.3°, $\mathbf{v}_B = 9.17$ m/s ∠ 70.9°.

14.48: (a) L = (0.6522)**i** lb-s, Hg = (0.2717)**k** ft-lb-s; (b) vb = (-4.5) **i** ft/s, va = (6.0)**i** ft/s

14.54 (*a*) $\mathbf{v}_A = 7.20$ ft/s ↓, $\mathbf{v}_B = 9.00$ ft/s ∠ 53.1°. (*b*) 74.0 in.