

Chapter 15:

15.11 $-(0.400 \text{ m/s})\mathbf{i} + (0.700 \text{ m/s})\mathbf{k}$,
 $-(2.00 \text{ m/s}^2)\mathbf{i} - (6.50 \text{ m/s}^2)\mathbf{j} - (3.00 \text{ m/s}^2)\mathbf{k}$.

15.27 (a) 10.00 rad/s \uparrow , (b) 7.50 m/s^2 \downarrow , 3.00 m/s^2 \downarrow ,
(c) 4.00 m/s^2 \downarrow .

15.33 (a) 10.39 s , (b) Disk A: 413 rpm \downarrow ; Disk B: 248 rpm \uparrow .

15.42: $w = 3.618 \text{ rad/sec}$ CCW, $v_A = 1.963 \text{ m/s}$ down

15.52 (a) 48.0 rad/s \downarrow , (b) 3.39 m/s $\swarrow 45^\circ$.

15.69 (a) 12.00 rad/s \downarrow , (b) 72.1 in./s $\nearrow 56.3^\circ$.

15.76 (a) 25.0 mm to the right of axle, (b) 420 mm/s \uparrow .

15.82: $w_{bd} = 12 \text{ rad/s}$ CCW, $v_f = 3.9 \text{ m/s}$ @ 67.38 degrees

15.85: $w = 0.4667 \text{ rad/s}$ CCW, $v_d = 3.492 \text{ ft/s}$ @ 59.21 degrees

15.93 (a) 2.79 in./s $\swarrow 36.7^\circ$, (b) 8.63 in./s $\swarrow 75.0^\circ$.

15.106 (a) 0.600 m from A, (b) 0.200 m from A.

15.108 A: 7.00 ft/s^2 \uparrow ; B: 0.200 ft/s^2 \downarrow .

15.110 (a) 2.88 m/s^2 \rightarrow , (b) 7.92 m/s^2 \rightarrow .

15.112 (a) 96.0 rad/s^2 \uparrow , 2.40 m/s^2 \leftarrow ,
(b) 48.0 rad/s^2 \uparrow , 1.200 m/s^2 \leftarrow .

15.116 A: 48.0 in./s^2 \uparrow ; B: 85.4 in./s^2 $\swarrow 69.4^\circ$;
C: 82.8 in./s^2 $\nearrow 65.0^\circ$.

15.126 296 m/s^2 \uparrow .

15.130 (a) 7.20 rad/s^2 , (b) 1.296 m/s^2 \leftarrow .

15.135 (a) 8.15 rad/s^2 \uparrow , (b) 0.896 rad/s^2 .