

Midterm

1. 125 m
2. a) 244 m
b) on the way down
c) 125 m/s
3. a) decreasing
b) $\vec{v}_i t = 3.00$ m, N; $\frac{1}{2} \vec{a} t^2 = 6.00$ m, 30 degrees E of S
c) 2.41 m, 24.5 degrees W of S
4. a) circular path, $r = 490$ m
b) 44.0 s
c) track might not be circular

Midterm 2

1. a) 2.28 m/s
b) 0.880 N
c) 1.81 cm
2. a) decreasing
b) $\vec{v}_i t = 12.0$ m, E; $\frac{1}{2} \vec{a} t^2 = 16.0$ m, 30° S of W
c) 15.5 degrees
3. a) 5.05 m/s
b) remains the same
4. a) ML^4/T^2
b) $\frac{4\beta}{9L^2}$
c) $\frac{\beta}{18L^2}$

Final Exam

1. 36.2 degrees N of W
2. 1.93 m/s²
(EC) 48.2 kW
3. slowing down
4. a) 10.3 m/s
b) 8.62 kN, down
5. a) $\frac{\sqrt{5}}{3} v$, 26.6° ccw from initial velocity of m_2
b) 26.6 degrees
c) not elastic
d) 37.5%
6. a) 268 N
b) 0.248