NAME:_____

Physics 10 Fall 2017

Cover Sheet for Exam 1, 10/3

The Ground Rules: Show your work! You must give sufficient justification for your answer–no credit will be given for answers that are unaccompanied by an explanation and/or clearly written calculations. Where required, answers must include the correct units and direction. Please keep 3 sig figs in your answer for numerical problems.

Point values are shown next to the problem; there are a total of 100 points on the exam.

$g = 9.8$ m/s^2,or you may approximate it as $g = 10$ m/s^2.

Some useful formulas

$$\Delta\vec{r} \equiv \vec{r}_f - \vec{r}_i$$

$$\vec{v}_{AVE} \equiv \frac{\Delta\vec{r}}{\Delta t}$$

$$\vec{v} \equiv \frac{d\vec{r}}{dt}$$

$$\vec{a}_{AVE} \equiv \frac{\Delta\vec{v}}{\Delta t}$$

$$\vec{a} \equiv \frac{d\vec{v}}{dt}$$

$$\vec{v} = \vec{v_0} + \vec{a}t$$

$$\vec{r} = \vec{r_0} + \vec{v_0}t + \frac{1}{2}\vec{a}t^2$$

$$v^2 = v_0^2 + 2a(x - x_0)$$

$$\Sigma\vec{F} = m\vec{a}$$

$$\vec{F}_{12} = -\vec{F}_{21}$$

$$\vec{F}_G = m\vec{g}$$

$$F_{fr} = \mu F_N$$

$$a_c = \frac{v^2}{r}$$