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Section _____

PHYSICS 1210 Test 2

University of Wyoming

10 March 2011

This test is closed-note and closed-book. No written, printed, or recorded material is permitted. Calculators are permitted but computers are not. No collaboration, consultation, or communication with other people (other than the administrator) is allowed by any means, including but not limited to verbal, written, or electronic methods. Sharing of calculators is prohibited. If you have a question about the test, please raise your hand.

For full credit, show the full thought process from basic equations to final results.

Please do not open this test booklet until everyone has received a booklet and the test administrator has indicated for you to begin. While you are waiting, make sure that your name is on this page!!

$$v_{av} = \frac{x_2 - x_1}{t_2 - t_1} = \frac{\Delta x}{\Delta t} \quad v = \frac{dx}{dt} \quad a_{rad} = \frac{v^2}{R} = \frac{4\pi R^2}{T^2}$$

$$2.2 \text{ lbs} = 1 \text{ kg}$$

$$a_{av} = \frac{v_2 - v_1}{t_2 - t_1} = \frac{\Delta v}{\Delta t} \quad a = \frac{dv}{dt}$$

$$1 \text{ mile} = 5280 \text{ ft} = 1760 \text{ m}$$

$$x = x_0 + v_{0x}t + \frac{1}{2}a_x t^2 \quad v_x = v_{0x} + a_x t \quad v_x^2 = v_{0x}^2 + 2a_x(x - x_0)$$

$$\text{Newton's second law: } F = ma \quad \sum F_x = ma_x \quad F_{spring} = -kx \quad F_f = \mu F_N$$

$$W = \vec{F} \cdot \vec{s} \quad W = \Delta K \quad U_{spring} = \frac{1}{2}kx^2 \quad \text{Power} = \frac{\Delta W}{\Delta t} = Fv$$

$$W_{grav} = -\Delta U \quad \text{Work/Energy: } U = mgh$$

$$p = mv \quad J = \Delta(mv) = Ft$$