EXAM QUESTION EXAMPLES

PHYSICS 1310

CIRCLE APPROPRIATE ANSWER OR ANSWERS TO EACH QUESTION

NO CREDIT GIVEN WITHOUT AN APPROPRIATE EXPLANATION (TEXT AND/OR EQUATIONS) SUPPORTING EACH CORRECT ANSWER

PARTIAL CREDIT POSSIBLE FOR WORK SHOWN

3" X 5" CRIB SHEET OK, NO OTHER NOTES ETC. ALLOWED

NO ELECTRONIC DEVICES OF ANY KIND ALLOWED OR VISIBLE

USE BACK OF PAGE IF ADDITIONAL SPACE IS REQUIRED

1. (10 Points). An amount of work W_1 is required to stretch spring with spring constant k_1 a distance d. An amount of work $2W_1$ is required to stretch a spring with a spring constant k_2 a distance $d/2$. What is the ratio of k_1 / k_2?

A. 8

B. 4

C. $2^{1/2}$

D. 1

E. 2

F. $8^{1/2}$

2. (10 Points). You hang on one end of a rope that passes over a frictionless, massless pulley. Take your mass as m and the mass of the block as M where $M > m$. To prevent the block from moving, with what acceleration must you climb the rope?

A. *Mg/m*

B. *mg/M*

C. *(M-m)g/M*

D. *(M-m)g/m*

E. *2(M-m)g/m*

F. *(M-m)g/2m*