Name: _____

TAM 210/211 Written Assignment 5 (due on February 17th)

A forklift truck has weight w_2 and is used to lift a crate with center of gravity G_1 and weight w_1.

(a) If the center of gravity of the forklift truck is located a distance x in front of the rear wheel, determine an expression for the reaction force at each of the wheels as a function of the problem parameters d_1, d_2, w_1, w_2, and x.

(b) What is the minimum weight required for the back tire of the forklift to come off the ground?

(c) Determine the equivalent moment about the given point O_1(Exclude the reaction forces)

(d) Create your own equivalent system using the results from part (a) and (c).

(e) You and your friend were using this forklift and realized that you had to lift a weight that was above the limit given in part (b). What could you do to get your task completed?