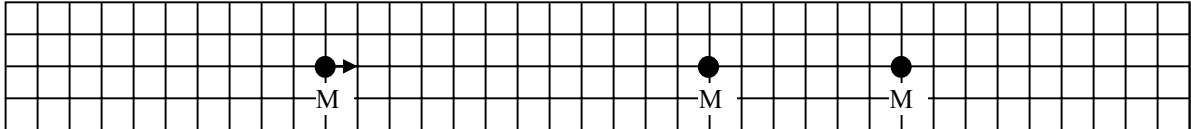


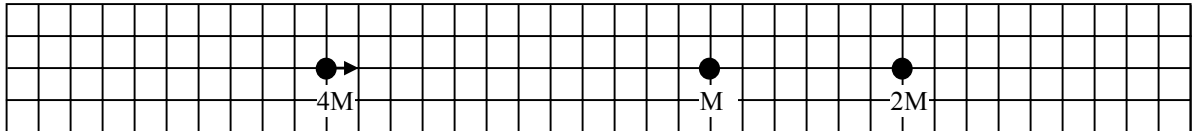
Physics 112
Quiz #2
August 27, 1999

Name _____

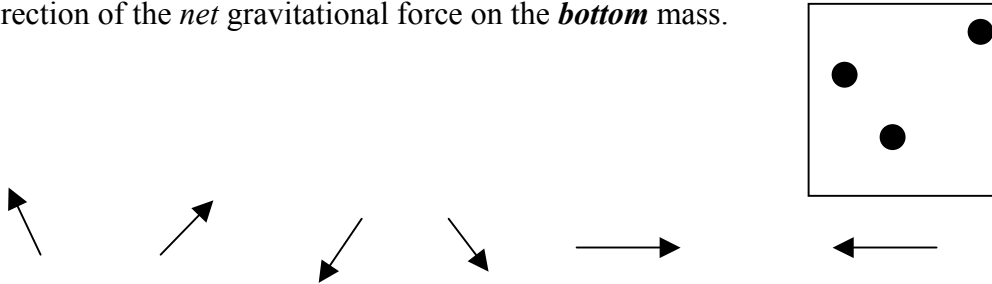
1. The arrow in the diagram shows the gravitational force on the *left* mass that is exerted by the *center mass only*. (All three masses are equal.) Draw an arrow on the diagram representing the *net force* on the center mass. (Please draw only one arrow on the diagram, to avoid confusion. Do scratch work *below* the diagram, if necessary.)



2. The arrow in the diagram shows the gravitational force on the *left* mass that is exerted by the *center mass only*. (The three masses are *not* equal.) Draw an arrow on the diagram representing the *net force* on the center mass. (Please draw only one arrow, to avoid confusion.)



3. Three spheres with equal mass are shown in the box. Circle the arrow that *most closely* represents the direction of the *net* gravitational force on the *bottom* mass.



4. A small object with mass m and a large object with mass M are separated by a distance r . The gravitational force on the large object is F . If the mass of the smaller object is *doubled*, and the mass of the larger object is *cut in half*, at the same time that the separation distance is *cut in half*, what will be the new gravitational force on the large object?

- A. $8F$
- B. $4F$
- C. $2F$
- D. F
- E. $1/2 F$
- F. $1/4 F$
- G. $1/8 F$