Chapter IV Review Sheet **RS IV**

A. Define each of the following. Also give standard units where appropriate.

Acceleration (improved def. on p. 41 & 42)

Alpha particle (44b)

Change in Velocity (41, 42)

Components (41b)

Elastic collision (44)

Inelastic collision (44)

Input Force (45)

Mass (6, 35, 43)

Mechanical Advantage (46)

Momentum (43, 44, 44b)

Output force (45)

Standard Deviation (31b)

Tension (33, 41)

Work (47)

B. Discoveries:

1. How do we subtract vectors? _____ (41, 42)
2. Momentum conservation law: (44, 43) _____
3. If an object is moving with constant speed along a circular path, it must be accelerating toward the _____ of the circle. (35, 42)
4. How can we predict the direction of an object's acceleration if the total force on the object is not zero? (31, 37, 47, #4 on RS III) ____
5. State the four **pulley principles**. (45-47) _____
6. The "work" done on an object is a _____ quantity which is proportional to the _____ of the _____ propelling the object and the _____ which the object moves while being propelled. (47)
7. How must a pulley system's input work compare with its output work? (47)
8. How does skidding distance depend on initial speed? _____ (27, 31R, 44b)
9. One pound is equal to _____ newtons. One newton is equal to ____ pound. (6, 35, 47)
10. How do we measure the strength of a gravitational field? (two methods)
11. How strong is the earth's gravity? **g =** ___ ___ or ___ ____ (6, 35, 39, 47)
12. How do we find horizontal and vertical components of a vector? (41b)
13. When calculating the square root of a number, how do you estimate its uncertainty? (20, 44b)
14. How can we use trigonometry to solve any right-triangle problem? (41b)