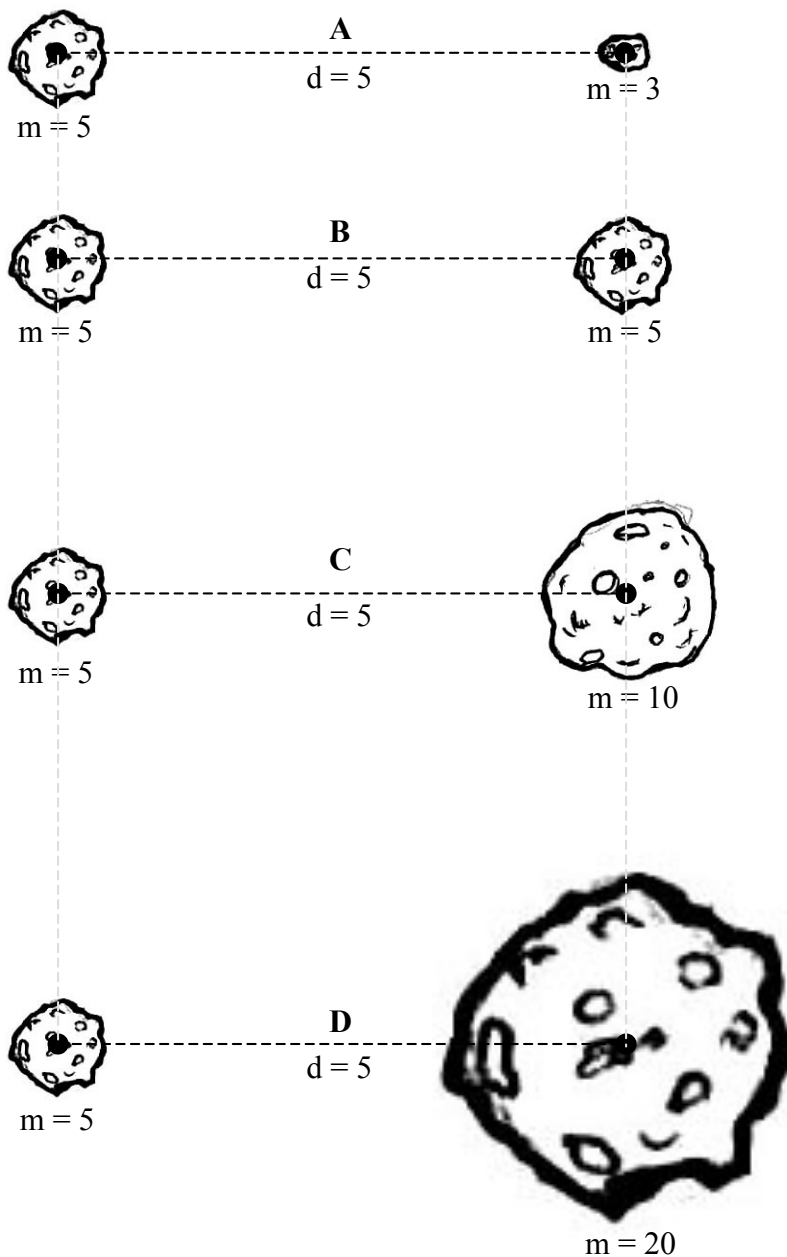# Astronomy Ranking Task:
Gravity

Exercise #4

Description: The figures below (A – D) each show two rocky asteroids with masses (m), expressed in arbitrary units, separated by a distance (d), also expressed in arbitrary units.

A. Ranking Instructions: Rank (from greatest to least) the strength of the gravitational force exerted on the asteroid located on the <u>left side</u> of each pair.

Ranking Order: Greatest 1 _____ 2 _____ 3 _____ 4 _____ Least

Or, the strength of the gravitational force exerted in each case is the same. _____
(indicate with a check mark)

Carefully explain your reasoning for ranking this way:

_____
_____
_____
_____

B. Ranking Instructions: Using Newton's Second Law, rank the acceleration (from greatest to least) that the asteroids located on the <u>left side</u> of each pair would experience due to the gravitational force exerted on it.

Ranking Order: Greatest 1 _____ 2 _____ 3 _____ 4 _____ Least

Or, the accelerations for each asteroid is the same. _____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

_____
_____
_____
_____