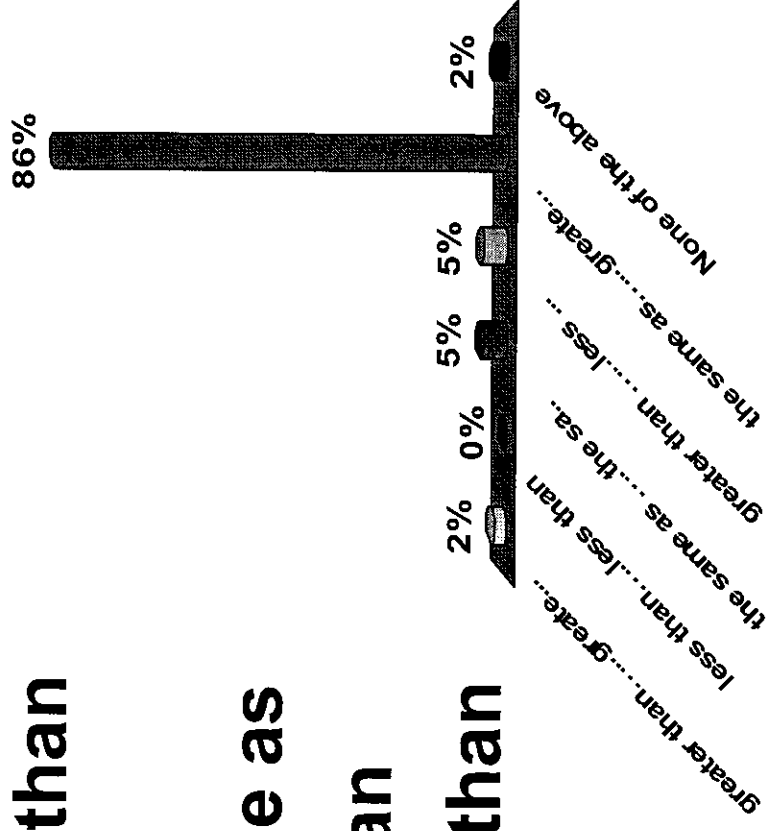


1/5/21/01/18/

Since $M_E \gg M_M$, we conclude, by Newton III, that the force the earth exerts on the moon is _____ the force the moon exerts on the earth and, by NII, that the acceleration of the moon is _____ that of earth. (Consider only magnitudes.)

1. greater than.....greater than
2. less than....less than
3. the same asthe same as
4. greater thanless than
5. ✓ the same as.....greater than
6. None of the above



4/24/07(b)

The correct answer is 5):

The force on the moon is the same as the force on the earth and the acceleration of the moon is greater than that of the earth.

- A) NIII guarantees $\mathbf{F}_{E,M} = -\mathbf{F}_{M,E}$;
- Magnitudes are the same; directions opposite.
- B) NII, $a = F/m$ requires larger acceleration for smaller mass if force is the same:
- Moon's mass is less than earth's and thus its acceleration is greater than earth's.