Name: _____ Block _____

Mass and Weight Practice *show your work!*

1) How many atoms are in something determines its

_____.

2) How strongly the planet you're on pulls on you is your

_____.

3) Stand on the Force Scale. Your weight (<u>as a force</u>) on Earth is

_____. Now calculate your mass using the

acceleration due to gravity for the Earth. **<u>Show your work!</u>**

Planet / Moon	Your Mass Here (kg)	Gravitational Acceleration Here (m/s^2)	Your Weight Here (N)
Moon		1.6	
Sun		274	
Jupiter		25.9	
Saturn		11.19	

4) The mass of your new motorcycle is 250 kg. What is:

A) Its weight on Earth?

B) Its weight on the moon?

C) The mass of your motorcycle on the moon?

5) Somewhere you place a 7.5 kg pumpkin on a spring scale. If the scale reads 78.4 N, what is the acceleration due to gravity at that location?

6) The weight of a pony standing still in a pasture is 1025N.

A) What is the pony's mass?

B) What is the size of the force of the ground acting on the pony?

C) Where will the pony weigh less (Moon, Jupiter, impossible)?

D) Where will the pony have less mass (Moon, Jupiter, impossible)?

7) In the physics sense, when a person goes on a diet, do they really want to lose weight or mass? Explain your reasoning!

8) The general rule is that you will weigh _____ on

the bigger Planets (like Jupiter, Saturn etc.), and

_____ on the smaller planets (like the Mercury).