

Concepts of Science **NAME**_____

Exam 1 January 29, 1993 **Class Time**_____ **Lab Sec.**_____

Seat No._____

When Solving Problems, be sure to show all work

1. If a man is 6 feet tall, What is his height in cm?

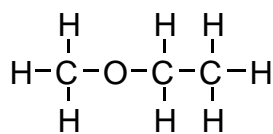
2. How much does a 5 pound sack of sugar weigh in grams?

3. The distance from the earth to the moon is 383,000 km. If the mass of the earth is 5.79×10^{24} kg and that of the moon is 7.22×10^{22} kg, calculate the force with which the earth and the moon attract one another.

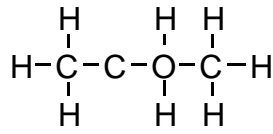
4. Calculate the velocity necessary to keep the moon in a stable orbit around the earth at the above distance

5. Galileo is considered by many as the father of modern science. Briefly explain how Galileo changed the way in which science is done.

6. a. The two structures below both have the formula C_3H_8O . However, one is not a correct structure. Indicate which is not correct and explain why.



A



B

b. Calculate the molecular weight of **A** or **B**.

7. The chart below lists several classical concepts which we now know are no longer accurate. Complete the chart by listing our current view of the concept and the name of the individual responsible for this current view.

Classical View	Current View	Person responsible for change
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Solar system is geocentric		
The heavenly bodies are perfect		
The planets move in circular orbits		

Useful Information:

Meter = 39.37 inches = 1.094 yards

Yard = 0.9144 meter

Mile = 1.609 kilometers

Inch = 2.54 centimeter

Quart = 0.9463 liter

Pound = 0.453 kilograms

Ounce = 28.53 gram