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| Review #2 East.H.S. ©λ€M|5+rγvisit http://genest.weebly.com |   | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_The test is this Friday. What’s on it? See the class website. |

1. A can of cold soda warms as it is left on the counter.



List one or more **mistakes** in the solution shown above

1. A tray of water (20 ˚C) is placed in the freezer and turns into ice cubes (- 8 ˚C)



List one or more **mistakes** in the solution shown above

1. Describe what early chemists meant by *caloric*
2. We describe three storage “accounts” to understand the changes we see in chemistry. State their names and describe how energy is stored in these three storage modes
3. What is our more modern word for caloric? \_\_\_\_\_\_\_\_\_\_\_
4. What did James Joule discover about energy?

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| ***You will always be given these numbers on tests and quizzes.*** |  |
|  0 degrees C = 273 kelvins 760. torr = 760. mmHg = 1.00 atm = 101 kPa = 101,300 pascals = 14.7 p.s.i. R = 0.0821 liter-atm/mol-K (for PV=nRT problems, if you use this R value you must use these units) 1.00 mole of things is 6.02x1023 things.  |

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| This is a before and after problem. Your solution should be a ‘lonely number’ followed by one or more ratios.  |
| 1. A quantity of gas exerts a pressure of 98.6 kPa at a at a temperature of 22.0 °C. If the volume remains unchanged, what pressure will it exert at -8.0°C?
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| This is a now problem. Your solution should start by writing PV=nRT and then rearranging the letters to get the unknown alone.Your units must be the same as whatever units your ‘R” is in.  |
| 1. A 280.0 mL sample of neon exerts a pressure of 660.0 torr at 26.0°C. How many moles does it contain?
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1. In a container of gas, when volume decreases pressure usually ( decreases / increases ).
2. If this manometer is in a room with 742 mmHg ambient pressure, and “h” is 11.0 millimeters of mercury the pressure of the gas inside the square box is \_\_\_\_\_\_\_\_\_\_\_
3. If gas in this box is at a pressure of 790 torr and the height of the mercury shown by h is 13 mm, the ambient pressure in the room must be \_\_\_\_\_\_\_\_\_\_
4. How many atoms are in 0.66 moles of calcium atoms?

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|  | ***What else should you review? Review the original notes and worksheets. And practice more math problems!*** |