Gas Laws: °C ↔ Kelvins

1. **Numerical response question**

   Left justify your answer in the boxes provided below

   Tom and Jim have been recording the difference in temperatures of their mother's greenhouse the past four days. Tom measured the temperatures in the morning before he left for work and Jim would record temperatures in the afternoon when he came back from school.
   Tom and Jim then decided to rank the days from **least** temperature change to **greatest** temperature change in the greenhouse.

Day	Morning temperature reading	Afternoon temperature reading
1	278K	23° C
2	269K	12° C
3	273 K	19° C
4	281 K	18° C

   Using the collected data, determine the order of the days from **least** temperature change to **greatest** temperature change in degrees Celsius.

2. **Numerical response question**

   Left justify your answer in the boxes provided below

   The planet Venus is roughly the same size as Earth but has higher surface temperatures than Earth due to its closeness to the sun. If Venus' surface temperature is 782K, the equivalent temperature in degrees Celsius would be _____ ° C. Round to the nearest degree.

3. **Numerical response question**

   Left justify your answer in the boxes provided.

   Shawn is the expert in converting temperatures from Kelvin to °Celsius. He knows that 293K will be _____ °C. Round to the nearest degree.

4. **Numerical response question**

   Left justify your answer in the boxes provided.

   Helium weather balloons are used to collect weather data. Weather balloons can go as high as 30 km where the air temperature is -47 °C. The air temperature at this altitude is _____ K. Round to the nearest Kelvin.

5. **Numerical response question**

   Left justify your answer in the boxes provided.

   A sample of gas at constant pressure is at -12.5 °C. This temperature is equivalent to _____ K. Round the answer to the nearest whole number.

6. **Numerical response question**

Left justify your answer in the boxes provided.

The temperature of a gas in the upper atmosphere is 135K. This is equivalent to ± _____^{o}C. Round the answer to the nearest **<u>whole degree Celsius</u>**.

7. **Numerical response question**

Left justify your answer in the boxes provided.

The average kinetic energy change of a gas is measured by temperature change. If a gas undergoes a temperature change of 16.9^{o}C, this is equivalent to a change of _____ K.

Answers:

1. 4213
2. 509
3. 19
4. 226
5. 261
6. 138
7. 16.9