

1. Find the following temperatures in Kelvin Scale.
 - a. 0 C _____
 - b. 25 C _____
 - c. -177 C _____
 - d. 70 C _____

2. A weather balloon has a volume of 30 L at ground level (1 atm). What is its volume at .60 atmospheres (assuming the temperature remains constant)? Name the law.

3. Two suction cups are placed together so that there is 7 ml of air between them at 760 mm Hg. When stretched, the volume inside the suction cups becomes 25 mL. What is the pressure inside the suction cups? Name the law.

4. You have a balloon that is 5 L on a 33 C day. You leave it out overnight and the temperature in the morning is 15 C. What will the volume be in the morning? (Assume no gas leaked out of the balloon.) Name the law.

5. The cold volume in your tires is 40 liters. Assume the temperature of the tire is 20 C. After driving for a long distance, the temperature of your tire is 80 C. What is the volume of air in the tire? Name the law.

6. A gas cylinder is heated from 25 to 175 C. If the initial volume of the gas was 2.70 L, what is the final volume? Name the law.

7. The volume of cake batter increases because CO₂ expands with temperature. Gas in the batter goes from having a volume of .50 L at room temperature (25 C) to a volume of .80 L in the oven. What is the temperature in the oven? Name the law.