Name:________________________ Period: ______________

Temperature Conversion Worksheet

Convert the following to Fahrenheit

1) 10° C ________

2) 30° C ________

3) 40° C ________

4) 37° C ________

5) 0° C ________

Convert the following to Celsius

6) 32° F ________

7) 45° F ________

8) 70° F ________

9) 80° F ________

10) 90° F ________

11) 212° F ________

Convert the following to Kelvin

12) 0° C ________

13) -50° C ________

14) 90° C ________

15) -20° C ________

16) 100° F ________

16) 10° F ________

17) 88° F ________

Convert the following to Celsius

18) 100° K ________

19) 200° K ________

20) 273° K ________

21) 350° K ________

Boyle's Law: P1V1 = P2V2.

22. P1 = 275 mmHg, P2 = 800 mmHg, and V1 = 2.50 L, find V2. ________________

23. P1 = 0.925 atm, P2 = 1.00 atm, and V1 = 3.55 L, find V2. ________________

24. P1 = 1.00 atm, V1 = 400 mL, and V2 = 50.0 mL, find P2. ________________

25. P1 = 735 mmHg, V1 = 500 L, and V2 = 375 L, find P2. ________________

26. P1 = 742 mmHg, P2 = 1.00atm, and V1 =127 mL, find V2. ________________

Charles' Law: $\frac{V_1}{T_1} = \frac{V_2}{T_2}$ or $\frac{T_1}{V_1} = \frac{T_2}{V_2}$

Remember that the temperature used in the equation must be Kelvin! K = °C + 273

27. If T_1 = 273 K, T_2 = 325 K, and V_1 = 4.75 L, find V_2. ________________

28. If T_1 = 273 K, V_1 = 4.75 L, and V_2 = 5.65 L, find T_2 ________________

29. If T_1 = 25°C, T_2 = 15°C, and V_1 = 7.50 L, find V_2. ________________

30. A sample of air has a volume of 550.0mL at 106°C. At what temperature will its volume be 700.0mL at constant pressure? Use Charles' law to solve this problem.

31. A sample of gas at 104°C and 0.870 atm occupies a volume of 3.0L. What volume would this gas occupy at 60°C and 1.7 atm?

32. If I have 45 liters of helium in a balloon at 250 C and increase the temperature of the balloon to 550 C, what will the new volume of the balloon be?

33. Calcium carbonate decomposes at 12000 C to form carbon dioxide and calcium oxide. If 25 liters of carbon dioxide are collected at 12000 C, what will the volume of this gas be after it cools to 250 C?

34. I have 130 liters of gas in a piston at a temperature of 2500 C. If I cool the gas until the volume decreases to 85 liters, what will temperature of the gas be?

35. If I have 5.6 liters of gas in a piston at a pressure of 1.5 atm and compress the gas until its volume is 4.8 L, what will the new pressure inside the piston be?

36. I have added 15 L of air to a balloon at sea level (1.0 atm). If I take the balloon with me to Denver, where the air pressure is 0.85 atm, what will the new volume of the balloon be?