**Skill 33.01 Problem 1**

|  |
| --- |
| What is the height, h, of the column of mercury in the figure? |
| How would the height of the mercury in the barometer change   1. On Mount Rainier? 2. 66 feet below the surface of the ocean? |
|  |

**Skill 33.02 Problem 1**

|  |
| --- |
| The atmospheric pressure in Denver, Colorado, on the average is 0.830 atm. Express this pressure in   1. mm Hg 2. torr |
|  |
| If the pressure reading is given as 273 mm Hg, what would this be in atmospheres? |
|  |
| If the pressure reading is given as 2.1 atm, what would this be in torr? |
|  |

**Skill 33.03 Problem 1**

|  |
| --- |
| Which of the following indicate STP conditions,   1. 273 K and 760 mm Hg 2. 0 K and 1 torr 3. 0oC and 760 torr 4. 273 K and 760 torr |
|  |

**Skill 33.04 Problem 1**

|  |
| --- |
| A sample of oxygen gas collected in the laboratory occupies a volume of 150 mL when its pressure is 720 mm Hg. What volume will the gas occupy at a pressure of 750 mm Hg if the temperature remains constant? |
|  |

**Skill 33.05 Problem 1**

|  |
| --- |
| A sample of neon gas occupies a volume of 752 mL at 0oC. What volume will the gas occupy if the temperature is doubled? |
|  |

**Skill 33.06 Problem 1**

|  |
| --- |
| The gaseous contents in an aerosol can are under a pressure of 3.00 atm at 25oC. Directions on the can caution the user to keep the can in a place where the temperature does not exceed 52oC. What would the pressure of the gas in the aerosol can be at 52oC? |
|  |

**Skill 33.07 Problem 1**

|  |
| --- |
| The volume of a gas is 27.5 mL at 22.0oC and 740. mm Hg pressure. What will be its volume at 15oC and 755 mm Hg pressure? |
|  |

**Skill 33.07 Problem 2**

|  |
| --- |
| A helium-filled balloon has a volume of 30.0 L at 25oC and 1.00 atm. What volume will it have at 0.900 atm and 15oC? |
|  |

**Skill 33.07 Problem 3**

|  |
| --- |
| A 700. mL gas sample at STP (STP means standard temperature and pressure: temperature = 273 K and P = 1 atm) is compressed to a volume of 200. mL, and the temperature is increased to 30.0oC. What is the new pressure of the gas? |
|  |