## Thermodynamics problem - Ideal gas law - Tire with a leak

March 19, 2012

A car tire is pressurized in the morning at a temperature of  $20^{\circ}$ C to 2atm. By afternoon at a temperature of  $35^{\circ}$ C the tire pressure has changed to 2.1atm, but the volume has decreased by 2%. Use the ideal gas law to show that the reason this happened is because of a leak in the tire.