Astro 1 - notes, Q/A, corrections to the equation sheet
Midterm #1

Equation sheet corrections:

Saturday night: units of sigma (now corrected to W/m2/K4)

Sunday night: 3.26 ly/pc (corrected in the definition of the parsec)

Student Question #1: In the equation to find maximum wavelengths, what is the k (K?) in the numerator?

David's Answer #1: It's part of the units that go along with the constant. This is one of the only equations where the units are routinely provided in the equation itself (I think because nanometers are not a standard unit of length). So, since there's a temperature in the denominator on the right side but no temperature on the left side, the constant on the right side must have temperature units in it to cancel the temperature units of the T in the denominator. That's what the K is - it's degrees Kelvin. The numerator has units of nanometers times Kelvin (so the Kelvin from the denominator is canceled, leaving the nm that are the units of the lambda_max on the left side of the equation).