Scientific Math
Practice Problems

Some help:
$^{o}C=5/9(^{o}F-32)$, 29.92 in Hg = 760 mm Hg = 1.013 bar = 1013 mb = 101.3 kPa
1 circle (sphere) = 360^{o}, 1 hemisphere (1/2 sphere) = 180^{o}, $1^{o} = 60'$, $1' = 60''$
1 km = 1000 m, 1 AU = 149,599,000 km, 1 light year = the distance light travels in 365.26 days, light travels at $3.00x10^{8}$ m = 1 second, 1 parsec = $3.0857x10^{13}$ km,
1 light year = $9.4607x10^{12}$ km

1. Convert the following temperatures to Celsius
   a. $68^{o}F$ $20\ ^{o}C$
   b. $32^{o}F$ $0\ ^{o}C$
   c. $0^{o}F$ $-17.8\ ^{o}C$
   d. $-35^{o}F$ $-37\ ^{o}C$
   e. $98.6^{o}F$ $37\ ^{o}C$
   f. $55^{o}F$ $12.8\ ^{o}C$

2. Convert the following pressures into mm of Hg
   a. 30.27 in Hg 768.9 mm Hg
   b. 1020 mb 765.25 mm Hg
   c. 98.6 kPa 739.74 mm Hg
   d. 29.95 in Hg 760.76 mm Hg

3. Convert the following pressures to mb
   a. 28.64 in Hg 969.66 mb
   b. 754 mm Hg 1005 mb
   c. 104.2 kPa 1042 mb
   d. 2.41 atmospheres 2441 mb

4. How long will it take for sunlight to reach each of the following places (you'll have to do some research on where these places are)?
   a. Venus (108,200,000 km) 6.0 min
   b. Mercury (57,910,000 km) 3.2 min
   c. Mars (227,940,000 km) 12.7 min
   d. Saturn (1,429,400,000 km) 1.32 hours
   e. Jupiter (778,330,000 km) 43.2 min
   f. Rigel ($2.37x10^{15}$ km) 250.9 years
   g. Polaris ($4.31x10^{15}$ km) 465.9 years
   h. Aldebaran ($6.42x10^{14}$ km) 67.9 years
   i. Vega ($2.51x10^{14}$ km) 26.5 years
   j. Arcturus ($3.42x10^{14}$ km) 36.2 years