Dimensional analysis notes:

Conversion factor: any "ratio" of numbers and units that equal "one"
12/1 = 1; when the 12 represents inches and the 1 represents feet
1/365 = 1; when the 1 represents a "normal" year and the 365 represents days

Dimensional analysis PLAN OF ATTACK:

1- write down what you know (whether it is a measurement or a ratio)
2- leave lots of space for work
3- write an equal *(or is it "equals")* sign, a smaller space and then the UNITS of what you WANT TO KNOW
4- fill in the middle with conversion factors to cancel the units you don't want (you will most likely have to consult outside information in a real world problem)
5- check the plan using the units before you do the math
6- do the math
7- convert to proper sig figs
8- Make sure your answer is reasonable. CHECK IT (Units and Math)
9- Circle the final answer (with UNITS)

Example:

1) 35 furlongs per minute to miles per hour

$$\frac{35 \text{ Furlongs}}{1 \text{ minute}} \left(\frac{60 \text{ minutes}}{1 \text{ hour}}\right) \left(\frac{660 \text{ feet}}{1 \text{ furlong}}\right) \left(\frac{1 \text{ mile}}{5{,}280 \text{ ft}}\right) = \frac{1{,}386{,}000}{5{,}280} = \mathbf{\frac{262.5 \text{ mile}}{\text{hour}}}$$

Rounded to 2 sig figs we would have 260 M.P.H.