**Conversion factor:** any “ratio” of numbers and units that equal “one”

* 12/1 = 1; when the 12 represents eggs and the 1 a dozen.
* 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

35 Furlongs ( 60 minutes ) ( 660 feet ) ( 1 mile\_\_ ) = 1,386,000 = **262.5 mile**

1 minute ( 1 hour ) ( 1 furlong) ( 5,280 ft) 5,280 **hour**

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