

D.A of Derived/Double Units

m yd mg sec
 single units

$\frac{mi}{hr}$ $\frac{g}{mL}$ $\frac{\$}{lb}$ $\frac{g}{mol}$
 double/derived units

Convert 1 thing

double/derived units

$20mi \rightarrow ft$

$20\frac{mi}{hr} \rightarrow \frac{ft}{min}$

convert 2 things:

① unit on top

② unit on bottom

$20 \frac{mi}{hr} \rightarrow \frac{ft}{min}$

pathway:

$mi \rightarrow ft$

$hr \rightarrow min$

$20\cancel{mi} \mid 5280\cancel{ft} \mid 1\cancel{hr}$

$1\cancel{hr} \mid 1\cancel{mi}$

$60\cancel{min}$

$= 1760 \text{ ft/min}$

Just means I'm switching to convert the bottom unit

$8000 \frac{in}{sec} \rightarrow \frac{mi}{hr}$

pathway:

$in \rightarrow ft \rightarrow mi$

$sec \rightarrow min \rightarrow hr$

$8000\cancel{in} \mid 1\cancel{ft} \mid 1\cancel{mi} \mid 60\cancel{sec} \mid 60\cancel{min}$

$\cancel{sec} \mid 12\cancel{in} \mid 5280\cancel{ft} \mid 1\cancel{min}$

$= 454.5 \text{ mi/hr}$

$17 \frac{gal}{wk} \rightarrow \frac{cups}{min}$

pathway:

$gal \rightarrow qt \rightarrow cups$

$wk \rightarrow d \rightarrow hr \rightarrow min$

$17\cancel{gal} \mid 4\cancel{qt} \mid 4\cancel{cups} \mid 1\cancel{wk} \mid 1\cancel{d} \mid 1\cancel{hr}$

$\cancel{wk} \mid 1\cancel{gal} \mid 1\cancel{qt} \mid 7\cancel{d} \mid 24\cancel{hr} \mid 60\cancel{min}$

$= 0.027 \frac{cups}{min}$