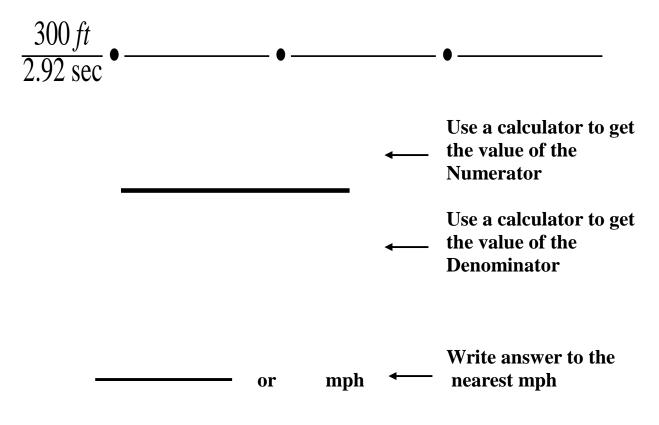
Use Unit Analysis (Dimensional Analysis) for the following problem. A cheetah ran 300 ft in 2.92 sec. What is the cheetah's speed in mph (miles per hour)?

1st step: Identify the cheetah's speed as a Rate: $\frac{300 ft}{2.92 \text{ sec}}$

2nd step: Before you start doing any math write down the units for your final answer. The UNITS in your answer should look like $\longrightarrow \frac{mi}{hr}$

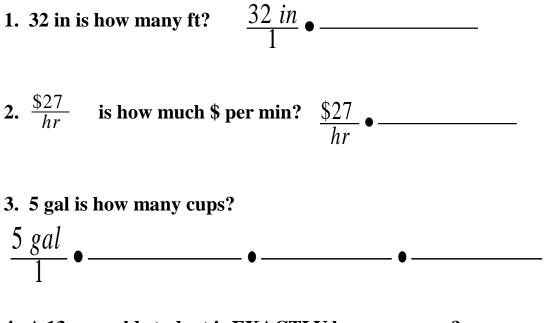
 3^{rd} step: Set up the problem in the following method. You will need to use the following Units of measurement. 1 mi = 5,280 ft 1 min = 60 sec and 1 hr = 60 min (ALWAYS REMEMBER THAT UNITS CANCEL OUT (DIVIDE OUT) IF 1 IS ON TOP AND 1 IS ON BOTTOM)



0	
inch (in)	1 in = 2.54 cm
foot (ft)	1 ft = 12 in
yard (yd)	1 yd = 3 ft
mile (mi)	1 mi = 1.6093 km
mile (mi)	1 mi = 5,280 ft
centimeter (cm)	
meter (m)	1 m = 100 cm
kilometer (km)	1 km = 1,000 m
fluid ounce (fl oz)	
cup(c)	1 c = 8 fl oz
pint (pt)	1 pt = 2 c
quart (qt)	1 qt = 2 pt
gallon (gal)	1 gal = 3.79 L
gallon (gal)	1 gal = 4 qt
milliliter (mL)	
liter (L)	1 L = 1,000 mL
ounce (oz)	
pound (lb)	1 lb = 16 oz
pound (lb)	1 lb = .45 kg
ton (t)	1 t = 2,000 lbs
	foot (ft) yard (yd) mile (mi) centimeter (cm) meter (m) kilometer (km) fluid ounce (fl oz) cup (c) pint (pt) quart (qt) gallon (gal) gallon (gal) milliliter (mL) liter (L) ounce (oz) pound (lb) pound (lb)

Common Units of measurement that you should know:

If you need, use the chart above to do the following problems. Complete 1–4 in a similar method as we did the problem on the front page.



4. A 13 year old student is EXACTLY how many sec?

