

Names: \_\_\_\_\_

## Conversions II

Solve the following problems. You can only use your conversion page, you cannot google new conversion factors. Pay attention to deciding what is the given, and what is the conversion factor. Never start with the conversion. **Always show all your work, each step, with units. YOU can NOT google your own conversions factors. Use what we gave you on your conversion factor sheet.**

### Multi-step conversions

Many times you will not know the direct conversion factor to use in a problem. For example, the problem may give 39.9 cm and ask you to convert it to feet. Well we don't know how many cm are in one foot, but we do know how many cm are in one inch. So we do that first. Then we convert from inches to feet!!! Simply line up all of the conversion factors in such a way that the numerator of the first one cancels the denominator of the second one and the numerator of the second conversion factor cancels the denominator of the third, etc. The above problem looks like:

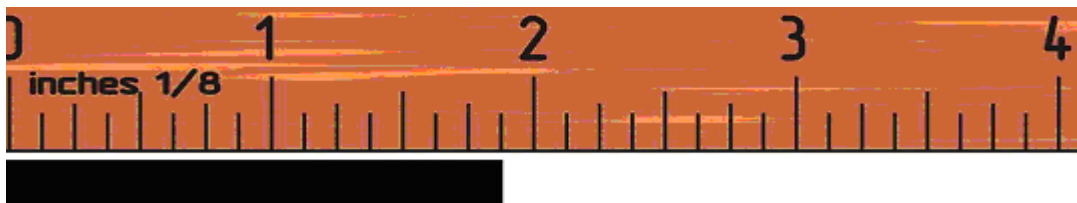
$$39.9 \text{ cm} \left( \frac{1 \text{ inch}}{2.54 \text{ cm}} \right) \left( \frac{1 \text{ foot}}{12 \text{ inches}} \right) = 1.31 \text{ feet}$$

The calculator operation looks like:  $39.9 \times 1 \div 2.54 \times 1 \div 12 = 1.31$ . Note that any number occurring in any denominator is entered after a "divide" sign. Any number occurring in any numerator (after the first number) is entered after a "multiply" sign. This way, only one "equals" sign needs to be entered at the end of the problem.

1. How many seconds are there in 2.30 hours?
2. How many yards are there in a 0.25 mile track?
3. A mountain is 3.5123 km high. What is its height in feet?
4. John's foot is 0.95 feet long. How many centimeters is that?

5. Sally drank 5.5 pints of beer. How many mL is that?
  
  
  
  
  
  
  
  
  
  
6. Freddy weighs 325 pounds. How many kilograms is that?
  
  
  
  
  
  
  
  
  
  
7. A horse tranquilizer is 45.0 cc. How many gallons is that?
  
  
  
  
  
  
  
  
  
  
8. Tucson is 42.3 miles from my house. How many yards is that?
  
  
  
  
  
  
  
  
  
  
9. Shawn had a 5.25 cc shot of vitamin B. How many cups is this?
  
  
  
  
  
  
  
  
  
  
10. Frankie weighs 23,500 milligrams. How many kilograms is that?

11. Record the length of the black box next to this ruler as accurately as possible in inches. \_\_\_\_\_



12. Record the length of the black box next to this ruler as accurately as possible in cm. \_\_\_\_\_

