NAME: **HONORS CHEMISTRY**

SECTION: Dimensional Analysis

|  |
| --- |
| **Table of Weights and Measures** |
| Length | Area | Volume |
| 1 nautical mile = 6076.11549 feet1 inch = 2.54 cm1 league = 5280 yards1 cable = 120 fathoms1 fathom = 6 feet1 degree = 69.047 miles1 mile = 5280 feet1 hand = 4 inches | 1 township = 36 square milesRemember to derive area conversion factors by working with length and squaring all dimensionsEx. 1 square foot = 12 in x 12 in = 144 in2 | 4 gill = 1 pint2 pints = 1 quart1 liter = 1.0567 quarts1 bushel = 4 pecks = 32 quarts1 gallon = 4 quarts |

Show all your work. Report your answer with the correct number of significant figures and appropriate units.

$$ Example: X hands=2.3 miles \frac{5280 feet}{1 mile} \frac{12 inches}{1 foot} \frac{1 hand}{4 inches}$$

Changes in latitude, changes in attitude…

1. Your cruise ship is leaving for a 610. league adventure. How many nautical miles is this?
2. Later the ship is discovered at 34 fathoms below the water surface. Convert this to meters.
3. Fortunately, you survived! You are stranded on a deserted island that is located 12.5 degrees north of the equator. How many kilometers is this?
4. If you are rationed to 32 gills of fresh water a day, how many liters is this?
5. The island has an area of 3.50 townships. How many square yards is this? Use scientific notation to report your answer.
6. The island is rich with hot chile peppers. You can collect 1.6 pecks a day. How many gallons of peppers could you collect in one week?