1.3

|  |  |  |  |
| --- | --- | --- | --- |
| Perform conversions using dimensional analysis. | Always start with what you’re given.Make a “plan” for the conversions that you need to do. | 1. A small herd of cattle consumes fourteen bales of hay in two weeks. How many bales will this herd consume in a year? | 2. How many miles will a person run during a 10 kilometer race? |
| 3. Convert 65 mph to feet per minute. | 4. Convert 4 years into minutes. |

**Solve the formula for the indicated variable. Show all of your work.**

5. For **r**: V = πrh 6. For **y**: 7x + 14y = -21 7. For **h**: 

**Unit Conversions. Round to 3 decimal places.**

* There are 5280 feet in one mile
* There are 0.034 ounces in one milliliter
* There are 0.454 kg in one pound
* There are 1.6 kilometers in one mile
* There are 73 gallons in 2 barrels
* There are 1.05 quarts in one liter
* There are 4 quarts in one gallon
* There are 16 ounces in a pound.

8. Convert 90 pounds to ounces.

9. Convert 10 kilometers to miles.

10. Convert 100 barrels to quarts.

11. Convert from 0.37 miles to: a) feet, b) inches, c) meters, and d) kilometers.

12. How long does a car traveling at 70 mph take to travel 230 miles, in hours?