

MEASUREMENT STANDARDS

SI Units

Measurements in this book are presented with International System of Units (SI) standards in all cases except when otherwise specified by ICAO (for example, altitude expressed in feet or performance numbers as specified by a manufacturer). The chart below can be used should your studies call for conversions into imperial numbers.

Number Groups

This book uses the International Civil Aviation Organization (ICAO) standard of writing numbers. This method separates groups of 3 digits with a space, versus the European method by periods and the American method by commas. For example, the number one million is expressed as:

| | |
|-------------------|-----------|
| ICAO Standard | 1 000 000 |
| European Standard | 1.000.000 |
| American Standard | 1,000,000 |

Prefixes

The prefixes in the table below form names of the decimal equivalents in SI units.

| MULTIPLICATION FACTOR | PREFIX | SYMBOL |
|---|--------|--------|
| 1 000 000 000 000 000 000 = 10 ¹⁸ | exa | E |
| 1 000 000 000 000 000 = 10 ¹⁵ | peta | P |
| 1 000 000 000 000 = 10 ¹² | tera | T |
| 1 000 000 000 = 10 ⁹ | giga | G |
| 1 000 000 = 10 ⁶ | mega | M |
| 1 000 = 10 ³ | kilo | k |
| 100 = 10 ² | hecto | h |
| 10 = 10 ¹ | deca | da |
| 0.1 = 10 ⁻¹ | deci | d |
| 0.01 = 10 ⁻² | centi | c |
| 0.001 = 10 ⁻³ | milli | m |
| 0.000 001 = 10 ⁻⁶ | micro | μ |
| 0.000 000 001 = 10 ⁻⁹ | nano | n |
| 0.000 000 000 001 = 10 ⁻¹² | pico | p |
| 0.000 000 000 000 001 = 10 ⁻¹⁵ | femto | f |
| 0.000 000 000 000 000 001 = 10 ⁻¹⁸ | atto | a |

COMMON CONVERSIONS

| IMPERIAL SYSTEM | TO | SI (METRIC) |
|--------------------|-------------|---------------------------|
| Distance | | |
| 1 Inch | is equal to | 2.54 Centimeters |
| 1 Foot | is equal to | 0.304 Meters |
| 1 (Statute) Mile | is equal to | 1.609 Kilometers |
| Weight | | |
| 1 Pound | is equal to | 0.454 Kilograms |
| Volume | | |
| 1 Quart | is equal to | 0.946 Liters |
| 1 Gallon | is equal to | 3.785 Liters |
| Temperature | | |
| °0 Fahrenheit | is equal to | (-)17.778 Celsius (°C) |
| °0 Fahrenheit | is equal to | 255.37 Kelvin (K) |
| Area | | |
| 1 Square Inch | is equal to | 6.451 Square Centimeters |
| 1 Square Foot | is equal to | 0.093 Square Meters |
| 1 Square Mile | is equal to | 2.59 Square Kilometers |
| Velocity | | |
| 1 Foot Per Second | is equal to | 0.304 Meters Per Second |
| 1 Mile Per Hour | is equal to | 1.609 Kilometers Per Hour |
| 1 Knot | is equal to | 1.852 Kilometers Per Hour |

| SI (METRIC) | TO | IMPERIAL SYSTEM |
|----------------------|-------------|-----------------------|
| Distance | | |
| 1 Centimeter | is equal to | 0.394 Inches |
| 1 Meter | is equal to | 3.28 Feet |
| 1 Kilometer | is equal to | 0.621 Miles |
| Weight | | |
| 1 Kilogram | is equal to | 2.204 Pounds |
| Volume | | |
| 1 Liter | is equal to | 1.057 Quarts |
| 1 Liter | is equal to | 0.264 Gallons |
| Temperature | | |
| °0 Celsius (°C) | is equal to | 33.8° Fahrenheit |
| °0 Kelvin (K) | is equal to | (-)437.87 Fahrenheit |
| Area | | |
| 1 Square Centimeter | is equal to | 0.155 Square Inches |
| 1 Square Meter | is equal to | 10.764 Square Feet |
| 1 Square Kilometer | is equal to | 0.386 Square Miles |
| Velocity | | |
| 1 Meter Per Second | is equal to | 3.281 Feet Per Second |
| 1 Kilometer Per Hour | is equal to | 0.621 Miles Per Hour |
| 1 Kilometer Per Hour | is equal to | 0.540 Knots |

Pressure

| | | |
|------------------------------|-------------------|-------|
| pounds per square inch (psi) | kiloPascals (kPa) | 6.897 |
| pounds per square inch (psi) | Pascals (Pa) | 6.894 |