# Conversion Factors for SI Units 

## William Stallings

"Right. So I reckon the supernova would seem about as bright as the sun does from the earth, if the supernova were viewed
from a distance of roughly one parsec."
"What the devil is a parsec? " broke in Cameron. The Inferno, Fred Hoyle

The International System of Units (SI) refers to the standardized units of weights, measures, and other quantities used throughout the world. Some U.S. textbooks use Imperial units. The following conversion table may be useful.

| To convert from | Multiply by | To get unit |
| :---: | :---: | :---: |
| inches | 2.54 | centimeters $(\mathrm{cm})$ |
| feet | 0.3048 | meters $(\mathrm{m})$ |
| yards | 0.9144 | meters $(\mathrm{m})$ |
| miles | 1.6093 | kilometers $(\mathrm{km})$ |
| miles $^{2}$ | 2.59 | $\mathrm{~km}^{2}$ |
| ounces $_{\text {pounds }}^{\text {tons }}$ | 28.35 | grams $(\mathrm{g})$ |
|  | 0.4536 | kilograms $(\mathrm{kg})$ |
|  | 1016 | kilograms $(\mathrm{kg})$ |

Temperature is in kelvins (K), degrees Fahrenheit ( ${ }^{\circ} \mathrm{F}$ ), or degrees Celsius $\left({ }^{\circ} \mathrm{C}\right)$. These are related as follows:
$\mathrm{T}=(5 / 9)(\mathrm{TF}+459.67)$
$\mathrm{T}=\mathrm{TC}+273.15$
$\mathrm{TC}=(5 / 9)(\mathrm{TF}-32)$
where T is in kelvins, TF is in ${ }^{\circ} \mathrm{F}$, and TC is in ${ }^{\circ} \mathrm{C}$.
Note: On the absolute temperature scale, it is correct to use kelvins (symbol K) to specify temperature but not "degrees Kelvin" (symbol ${ }^{\circ} \mathrm{K}$ ), which became obsolete by international agreement in 1967.

