TABLE A-8—PHYSICAL CONSTANTS AND VALUES (from Ref. 3)		
Triple point of water	273.16 exactly	K*
	0.01 exactly	°C
	491.688 exactly	°R
	32.018 exactly	°F
Absolute zero	0.00 exactly	K*
	−273.15 exactly	°C
	0.00 exactly	°R
	−459.67 exactly	°F
Gas constant, R	8.3143	$J \cdot mol^{-1} \cdot K^{-1}$*
	10.731 5	$psia \cdot ft^3 \cdot (lbm\text{-}mol)^{-1} \cdot {}^\circ R^{-1}$
Density of water at 60°F	999.014	$kg \cdot m^{-3}$*
[15.56°C, 288.71 K]	0.999 014	$g \cdot cm^{-3}$
	62.366 4	$lbm \cdot ft^{-3}$
Standard atmosphere	$1.013\,2 \times 10^5$	Pa*
	1.013 25	bar
	14.696 0	psia
Density of air at 1 atm, 60°F	1.223 2	$kg \cdot m^{-3}$*
[15.56°C, 288.71 K]	$1.223\,2 \times 10^{-3}$	$g \cdot cm^{-3}$
	0.076 362	$lbm \cdot ft^{-3}$
Earth's gravitational acceleration, g	9.806 650	$m \cdot s^{-2}$*
	980.665 0	$cm \cdot s^{-2}$
	32.174 05	$ft \cdot s^{-2}$
g_c	1.000 000	$kg \cdot m \cdot N^{-1} \cdot s^{-2}$*
	1.000 000	$g \cdot cm \cdot dyne^{-1} \cdot s^{-2}$
	32.174 05	$lbm \cdot ft \cdot lbf^{-1} \cdot s^{-2}$
π	3.141 593 …	
γ_{API}, °API	$[141.5/\gamma(60°F)] - 131.5$	

*SI values. All quantities are consistent with conversion factors for the current SI system.

TABLE A-9—TEMPERATURE SCALE CONVERSIONS (from Ref. 3)		
To Convert	To	Solve
degree Fahrenheit, T_F	kelvin, T_K	$T_K = (T_F + 459.67)/1.8$
degree Rankine, T_R	kelvin, T_K	$T_K = T_R/1.8$
degree Fahrenheit, T_F	degree Rankine, T_R	$T_R = T_F + 459.67$
degree Fahrenheit, T_F	degree Celsius, T_C	$T_C = (T_F - 32)/1.8$
degree Celsius, T_C	kelvin, T_K	$T_K = T_C + 273.15$

The SI standard, the kelvin (K), is defined so that the triple point of water is 273.16 K exactly. The SI temperature symbol is written K, without a degree symbol. The cgs (and common) temperature unit is degree Celsius, °C; the common oilfield unit is degree Fahrenheit, °F, or degree Rankine, °R.