

## Converting from imperial units

Multiply	by	to obtain
acres	0.4046856	hectares
acres	43560.0 *	square feet
acres	4046.856	square meters
acres	0.0015625*	square miles
acres	4840.0*	square yards
feet	30.48*	centimeters
feet	0.0003048*	kilometers
feet <sup>2</sup>	0.3048*	meters
feet U.S. survey foot	0.304800609601 <sup>o</sup>	meters
feet	0.00018939394	miles
feet	304.8*	millimeters
square feet	0.000022956	acres
square feet	929.0304*	square centimeters
square feet	0.09290304*	square meters
square feet	0.0000003587	square miles
inches	2.54*	centimeters
inches	0.0254*	meters
inches	0.00015782	miles
inches	25.4*	millimeters
inches	0.027777778	yards
square inches	6.4516*	square centimeters
square inches	0.00064516*	square meters
square inches	645.16*	square millimeters
miles	160934.4*	centimeters
miles	5280.0*	feet
miles	63360.0*	inches
miles	1.609344*	kilometers
miles	1609.344*	meters
miles	1760.0*	yards
miles	1.15077945	nautical miles <sup>3</sup>
square miles	640.0*	acres
square miles	27878400.0*	square feet
square miles	2.589988110647	square kilometers
yards	914.4*	millimeters
yards	91.44*	centimeters
yards	0.0009144*	kilometers
yards	0.9144*	meters
yards	0.000568182	miles
square yards	0.000206611	acres
square yards	0.83612736*	square meters
square yards	0.000003228305	square miles

## Converting from metric units

Multiply	by	to obtain
centimeters	0.03280839895	feet
centimeters	0.3937007874	inches
centimeters	0.00001*	kilometers
centimeters	0.01*	meters
centimeters	0.000006213711922	miles
centimeters	10.0*	millimeters
centimeters	0.01093613298	yards
square centimeters	0.001076391042	square feet
square centimeters	0.15500031	square inches
hectares	2.471054073	acres
hectares	107639.1042	square feet
kilometers	1000000.0*	millimeters
kilometers	100000.0*	centimeters
kilometers	1000.0*	meters
kilometers	1093.613298	yards
kilometers	3280.839895	feet
kilometers	39370.07874	inches
kilometers	0.6213711922	miles
square kilometers	247.1054	acres
square kilometers	10763910.42	square feet
square kilometers	0.386102158496	square miles
meters	100.0*	centimeters
meters	3.280839895	feet
meters	3.28083333333 <sup>1</sup>	feet U.S.survey foot
meters	39.37007874	inches
meters	0.001*	kilometers
meters	0.0006213711922	miles
meters	1000.0*	millimeters
meters	1.093613298	yards
square meters	0.0002471054	acres
square meters	10.76391042	square feet
square meters	0.0000003861003	square miles
millimeters	0.1*	centimeters
millimeters	0.003280839	feet
millimeters	0.03937007874	inches
millimeters	0.000001*	kilometers
millimeters	0.001*	meters
millimeters	0.0000006213711922	miles
millimeters	0.001093613298	yards
square millimeters	0.00001076391042	square feet

## Converting geographic (angular) units

Multiply	by	to obtain
degrees	1.111111111	grads
degrees	0.017453292	radians
grads	0.9*	degrees
grads	0.015707963	radians
radians	57.2958	degrees
radians	63.662	grads

## U.S. survey foot

U.S. survey values		
Multiply	by	to obtain
acres	0.4046873	hectares
acres	10.0*	square chains
acres	43560.0*	square feet
acres	4046.873	square meters
acres	0.0015625*	square miles
acres	160.0*	square rods
chains	66.0*	feet
chains	100.0*	links
chains	20.11684	meters
chains	0.0125*	miles
chains	4.0*	rods
square chains	0.1*	acres
square chains	0.04046873	hectares
square chains	4356.0*	square feet
square chains	404.6873	square meters
square chains	0.00015625*	square miles
square chains	16.0*	square rods
feet	0.01515152	chains
feet	1.515152	links
feet	0.304800609601°	meters
feet	0.00018939394	miles
feet	0.06060606	rods
square feet	0.00002295684	acres
square feet	0.000009290341	hectares
square feet	0.00000003587006	sections
square feet	0.0002295684	square chains
square feet	0.09290341	square meters
square feet	0.00000003587006	square miles
square feet	0.003673095	square rods
square feet	0.0000000009963907	townships
hectares	2.471044	acres
hectares	24.71044	square chains
hectares	107638.7	square feet
hectares	10000.0*	square meters
hectares	0.003861006	square miles
hectares	395.367	square rods
links	0.01*	chains
links	0.66*	feet
links	0.2011684	meters
links	0.000125*	miles
links	0.04*	rods
meters	0.0497096	chains
meters	3.280833333331	feet
meters	4.97096	links
meters	0.0006213699	miles
meters	0.1988384	rods
square meters	0.0002471044	acres
square meters	0.0001*	hectares
square meters	0.0000003861006	sections
square meters	0.002471044	square chains

square meters	10.76387	square feet
square meters	0.0000003861006	square miles
square meters	0.0395367	square rods
square meters	0.00000010725	townships
miles	80.0*	chains
miles	5280.0*	feet
miles	8000.0*	links
miles	1609.347	meters
miles	320.0*	rods
square miles	640.0*	acres
square miles	258.9998	hectares
square miles	1.0*	sections
square miles	6400.0*	square chains
square miles	27878400.0*	square feet
square miles	2589998	square meters
square miles	102400.0*	square rods
square miles	0.027777778	townships
rods	0.25*	chains
rods	16.5*	feet
rods	25.0*	links
rods	5.02921	meters
rods	0.003125*	miles
square rods	0.00625*	acres
square rods	0.002529295	hectares
square rods	0.00625*	square chains
square rods	272.25*	square feet
square rods	25.29295	square meters
square rods	0.000009765625*	square miles
sections	27878400.0*	square feet
sections	2589998	square meters
sections	1.0*	square miles
sections	0.027777778	townships
townships	36.0*	sections
townships	1003622400.0*	square feet
townships	93239945	square meters
townships	36.0*	square miles

\* Constants are exact.

<sup>o</sup> A coordinate system in 'U.S. survey feet' may be converted to a coordinate system in meters by scaling the system to a scale factor of 0.304800609601. An exact conversion can be accomplished by multiplying 'U.S. survey feet' by the fraction 1200/3937.

<sup>1</sup> A coordinate system in meters may be converted to a coordinate system in 'U.S. survey feet' by scaling the system to a scale factor of 3.28083333333. An exact conversion can be accomplished by multiplying meters by the fraction 3937/1200.

<sup>2</sup> The foot is one-third of the Imperial standard yard, which is defined to be 0.9144 meters, exactly. Thus the foot is defined as 0.3048 meters, exactly.

<sup>3</sup> Represents the international nautical mile and also the U.S. nautical mile. The international nautical mile is defined to be 1852 meters, exactly. However, the U.K. nautical mile is defined to be the average distance on the earth's surface subtended by one minute of latitude, thus being 6080 feet, exactly, or 1853.184 meters, exactly.