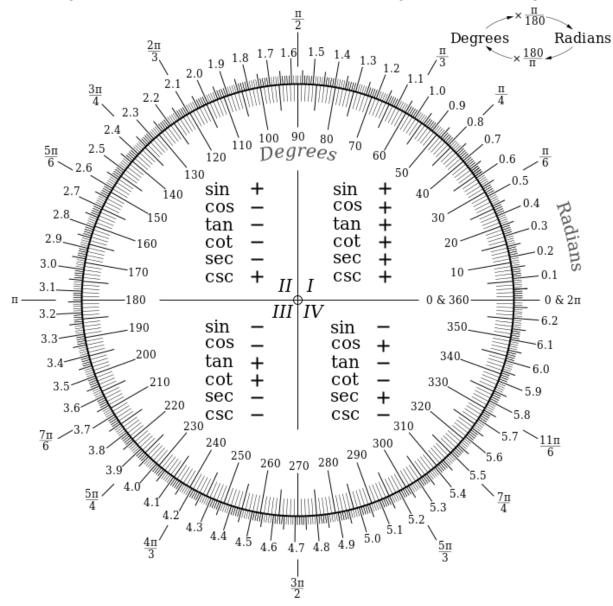
12 October 2022

2.5 Extension: Convert between radians and degrees

CCSS.HSG.SRT.C.8

Use this graduated circle, marked in both radians and degrees, to convert angle measures.



1. Convert radians and degrees. (nearest whole degree, nearest hundredth radian).

(a)
$$40^{\circ} =$$

$$(d) 1.1 =$$

(b)
$$65^{\circ} =$$

(e)
$$0.55 =$$

(c)
$$150^{\circ} =$$

$$(f) 2.1 =$$

Express the result to the nearest hundredth. (Degree measures to whole degrees)

2. $\tan 70^{\circ} =$		D	egrees	Radians	Tangent
		_	0	0.000	0.000
			5	0.087	0.087
			10	0.175	0.176
			15	0.262	0.268
3. $\tan 1.4 \text{radians} =$			20	0.349	0.364
			25	0.436	0.466
			30	0.524	0.577
			35	0.611	0.700
			40	0.698	0.839
4. $\tan^{-1}(\frac{6}{5}) =$			45	0.785	1.000
	degrees		50	0.873	1.192
			55	0.960	1.428
			60	1.047	1.732
			65	1.134	2.145
			70	1.222	2.747
5. $\tan^{-1}(\frac{91}{250}) =$	radians		75	1.309	3.732
			80	1.396	5.671
			85	1.484	11.430
			90	1.571	undefined

Challenge

6. Find the value, rounding to the nearest hundredth.

$$c = \sqrt{(-6.125)^2 + (\sqrt{90.1})^2}$$

7. Solve for x

$$7 = \sqrt{6x - 11}$$