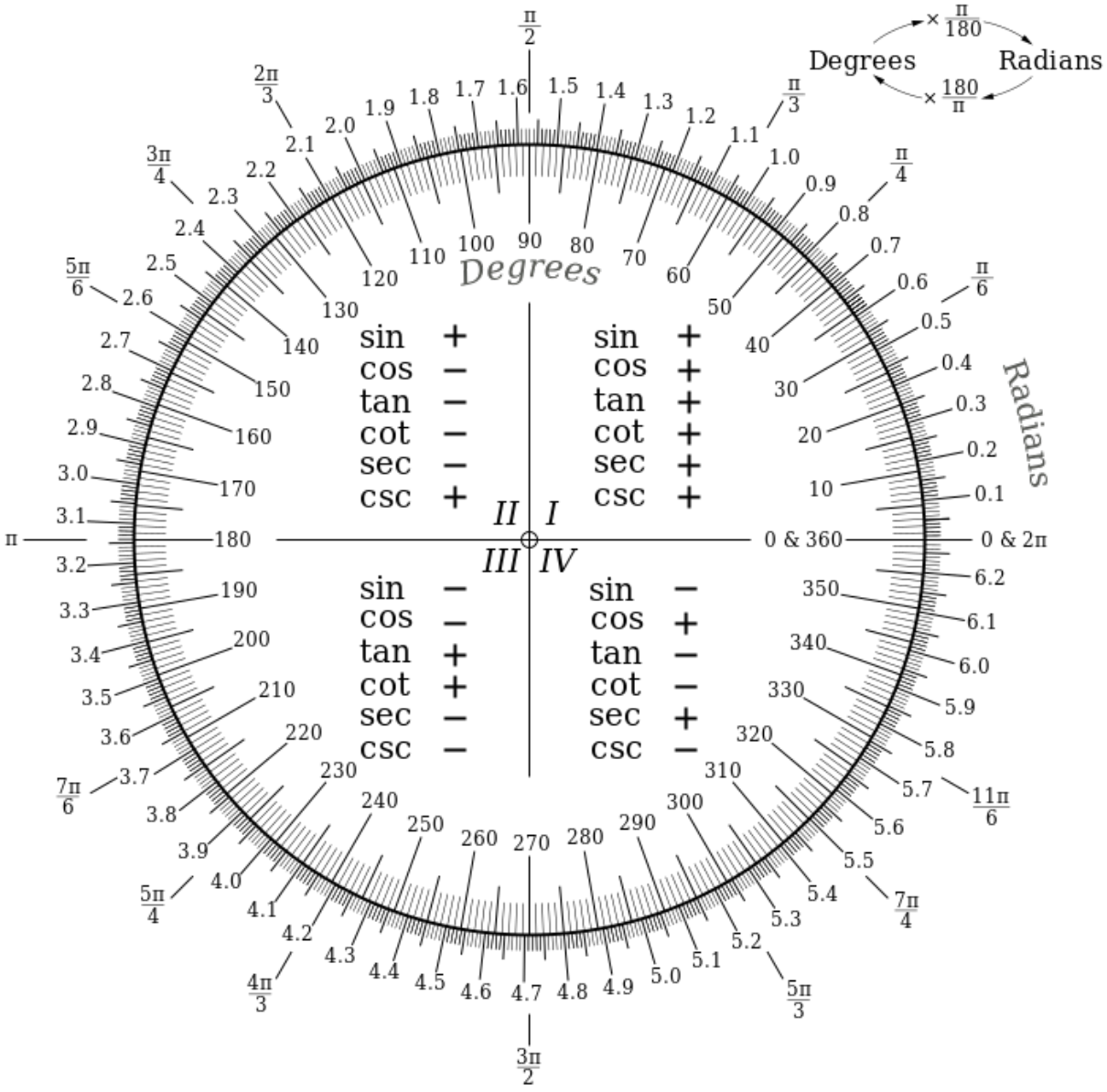
Unit 2: Angles Name:
4 October 2022

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) $40° =$

   (b) $65° =$

   (c) $150° =$

   (d) $1.1 =$

   (e) $0.55 =$

   (f) $2.1 =$

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

2. $\tan 70^\circ =$

3. $\tan 1.4$ radians $=$

4. $\tan^{-1}(\frac{6}{5}) =$ degrees

5. $\tan^{-1}(\frac{91}{250}) =$ radians

Degrees	Radians	Tangent
0	0.000	0.000
5	0.087	0.087
10	0.175	0.176
15	0.262	0.268
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
45	0.785	1.000
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
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

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