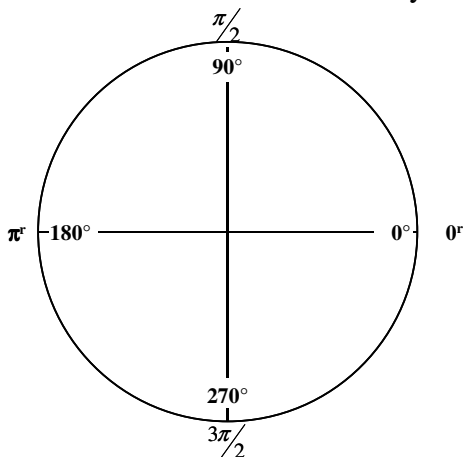


MATH 40S APPLIED
UNIT G – PERIODIC FUNCTIONS
RADIAN CONVERSION WORKSHEET

Name: _____
 Date: _____

1. Convert the following angles from degrees to *exact radians* and decimal radians to six d.p. It is likely desirable for you to visualize on a circle what you are doing:



a. 030°

b. 060°

c. 090°

Eg:

$$30^\circ * \frac{\pi}{180} = \frac{\pi}{6}$$

or in decimal approx:

0.523598

d. 210°

e. 135°

f. 270°

g. -45°

h. 225°

i. -150°

j. 100°

k. 75°

l. 450°

m. 750°

n. 5°

o. 185°

2. Convert the following radian angle measure to degrees. Be exact where possible; otherwise to 4 decimal places:

a. $\frac{\pi}{4}$

b. $\frac{3}{4}\pi$

c. 2^r

Eg:

$$\frac{\pi}{4} * \frac{180^\circ}{\pi} = 45^\circ$$

d. 2π

e. $\frac{3\pi}{8}$

f. $\frac{3\pi}{16}$

g. 6.3^r

h. $-\frac{4\pi}{5}$

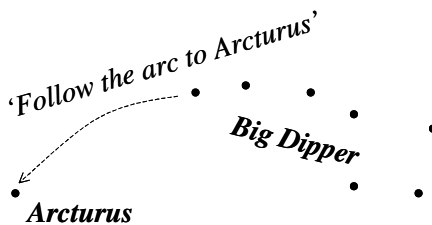
i. $-\frac{3\pi}{4}$

g. 6.3^r

h. $-\frac{4\pi}{5}$

i. $-\frac{3\pi}{4}$

3. Brandi was talking to Jermaine about Jermaine's home planet. Jermaine pointed in the vicinity of Arcturus. (Every summer person knows that star!) Brandi asked how many degrees of angle her planet was away from Arcturus. Jermaine had no idea what a degree was; but Jermaine said she was one 16^{th} of a π radian to the left of the star Arcturus! Ok, Brandi said, I see it now it is _____ of my earthling degrees to the left of Arcturus.



4. Recall your vectors? Cameron went in a compass direction (from North) of $[\pi]$ radians for 3 km then in a direction $[3\pi/2]$ radians for 4 km. What is his resultant vector? Give the magnitude exactly. Round the angle to 2 d.p. in (decimal) radians. (hint: do the Tan^{-1} in radians!)

Welcome to the non-earthling club! You are no longer constrained by some stupid 360 somethings in a circle!