

Degrees to radian

$$30^\circ \cdot \frac{\pi}{180}$$

$$\left(\frac{\pi}{6}\right)$$

Radian to Degree

$$\frac{\pi \cdot 180}{6 \cdot \pi}$$

$$30^\circ$$

Example

Name _____

Date _____

Advanced Algebra

Converting Degrees to radian measure and radian to Degrees

Assignment #8 Classwork

Convert each degree measure to radians. Leave answers in terms of π

1) 315
 $\frac{315}{180} \cdot \frac{63}{36} \left(\frac{7\pi}{4}\right)$

b) 225
 $\frac{225}{180} \cdot \frac{45}{36} \left(\frac{5\pi}{4}\right)$

c) 15
 $\frac{15}{180} \left(\frac{\pi}{12}\right)$

d) -45
 $\frac{-45}{180} \left(\frac{-\pi}{4}\right)$

2) -90
 $\frac{-90}{180} \left(\frac{-\pi}{2}\right)$

b) 135
 $\frac{135}{180} \cdot \frac{87}{36} \left(\frac{3\pi}{4}\right)$

c) -180
 $\left(-\pi\right)$

d) -225
 $\frac{-225}{180} \left(\frac{-5\pi}{4}\right)$

3) -120
 $\frac{-120}{180} \left(\frac{-2\pi}{3}\right)$

b) -240
 $\frac{-240}{180} \left(\frac{-4\pi}{3}\right)$

c) 300
 $\frac{300}{180} \left(\frac{5\pi}{3}\right)$

d) 360
 $\left(2\pi\right)$

4) 210
 $\frac{210}{180} \left(\frac{7\pi}{6}\right)$

b) -135
 $\left(\frac{-3\pi}{4}\right)$

c) -210
 $\left(\frac{-7\pi}{6}\right)$

d) -315
 $\frac{-315}{180} \left(\frac{-7\pi}{4}\right)$

Convert Each radian measure to degrees

5) $\frac{-\pi}{2}$
 $\frac{-\pi}{2} \cdot \frac{180}{\pi} \left(-90^\circ\right)$

b) $\frac{4\pi}{3}$
 $\frac{4\pi}{3} \cdot \frac{180}{\pi} \left(240^\circ\right)$

c) $\frac{-3\pi}{4}$
 $\frac{-3\pi}{4} \cdot \frac{180}{\pi} \left(-135^\circ\right)$

d) $\frac{-\pi}{6}$
 $\frac{-\pi}{6} \cdot \frac{180}{\pi} \left(-30^\circ\right)$

6) $\frac{-5\pi}{6}$
 $\frac{-5\pi}{6} \cdot \frac{180}{\pi} \left(-150^\circ\right)$

B) -2π
 $\left(-360^\circ\right)$

c) $\frac{5\pi}{4}$
 $\frac{5\pi}{4} \cdot \frac{180}{\pi} \left(225^\circ\right)$

d) $\frac{-\pi}{3}$
 $\frac{-\pi}{3} \cdot \frac{180}{\pi} \left(-60^\circ\right)$

7) π
 180

b) $\frac{-3\pi}{2}$
 $\frac{-3\pi}{2} \cdot \frac{180}{\pi} \left(-270^\circ\right)$

c) $\frac{2\pi}{3}$
 $\frac{2\pi}{3} \cdot \frac{180}{\pi} \left(120^\circ\right)$

d) $\frac{7\pi}{6}$
 $\frac{7\pi}{6} \cdot \frac{180}{\pi} \left(210^\circ\right)$

I know the exact Trig Values:

Degrees	Sin	Cos	Tan
0	0	1	
30	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	
45	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	
60	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	
90	1	0	

Make sure your signs
are correct

1) Cos 45

$$\frac{\sqrt{2}}{2}$$

2) Cos 135

$$-\frac{\sqrt{2}}{2}$$

3) sin 210

$$-\frac{1}{2}$$

4) cos 150

$$-\frac{\sqrt{3}}{2}$$

5) sin (-45)

$$-\frac{\sqrt{2}}{2}$$

6) cos 315

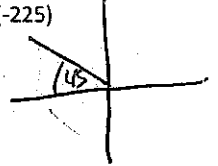
$$\frac{\sqrt{2}}{2}$$

7) cos 225

$$-\frac{\sqrt{2}}{2}$$

8) sin(-225)

$$\frac{\sqrt{2}}{2}$$

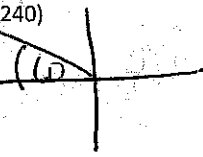


9) sin 150

$$\frac{1}{2}$$

10) cos (-240)

$$-\frac{1}{2}$$



11) sin (-135)



12) cos (-30)

$$\frac{\sqrt{3}}{2}$$

13) cos 210

$$-\frac{1}{2}$$



14) cos (90)

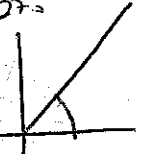
$$0$$

15) sin (-120)



16) sin(-315)

$$\frac{\sqrt{2}}{2}$$



17) cos $\frac{\pi}{6}$

$$\frac{\sqrt{3}}{2}$$



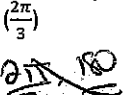
18) sin $(\frac{\pi}{3})$

$$\frac{\sqrt{3}}{2}$$



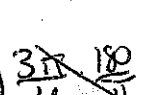
19) cos $(\frac{2\pi}{3})$

$$-\frac{1}{2}$$



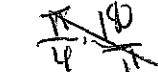
20) sin $(\frac{3\pi}{4})$

$$\frac{\sqrt{2}}{2}$$



21) cos $(\frac{\pi}{4})$

$$\frac{\sqrt{2}}{2}$$



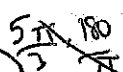
22) sin $(\frac{\pi}{4})$

$$\frac{\sqrt{2}}{2}$$



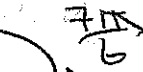
23) sin $(\frac{5\pi}{3})$

$$-\frac{\sqrt{3}}{2}$$



24) cos $(\frac{-7\pi}{6})$

$$-\frac{\sqrt{3}}{2}$$

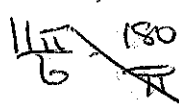


25) cos (2π)

$$1$$

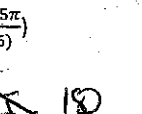
26) sin $(\frac{11\pi}{6})$

$$-\frac{1}{2}$$



27) cos $(\frac{-5\pi}{6})$

$$\frac{1}{2}$$



28) cos $\frac{-\pi}{6}$

$$\frac{\sqrt{3}}{2}$$

