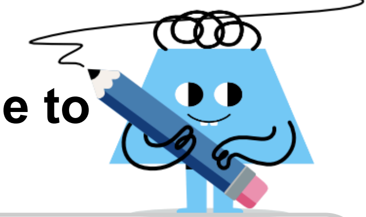
Trigonometry Identities - Double Angle to Identity (Radians)

Name ____________________



1

$$\tan(2 \cdot \frac{\pi}{4})$$

Complete the double-angle identity for this expression

A	B
$= 2\tan(\frac{\pi}{4})\cot(\frac{\pi}{4})$	$= \frac{2\tan(\frac{\pi}{4})}{1 - \tan^2(\frac{\pi}{4})}$

2

$$\tan(2 \cdot \frac{7\pi}{6})$$

Complete the double-angle identity for this expression

A	B
$= \frac{\tan(\frac{7\pi}{6})}{1 - 2\tan(\frac{7\pi}{6})}$	$= \frac{2\tan(\frac{7\pi}{6})}{1 - \tan^2(\frac{7\pi}{6})}$

3

$$\sin(2 \cdot \frac{7\pi}{4})$$

Complete the double-angle identity for this expression

A	B
$= \sin(\frac{7\pi}{4})\cos(\frac{7\pi}{4})$	$= \frac{2\tan(\frac{7\pi}{4})}{1 + \tan^2(\frac{7\pi}{4})}$

4

$$\tan(2 \cdot \frac{7\pi}{4})$$

Complete the double-angle identity for this expression

A	B
$= 2\tan(\frac{7\pi}{4})\cot(\frac{7\pi}{4})$	$= \frac{2\tan(\frac{7\pi}{4})}{1 - \tan^2(\frac{7\pi}{4})}$

5

$$\cos(2 \cdot \frac{\pi}{6})$$

Complete the double-angle identity for this expression

A	B
$= \cos^2(\frac{\pi}{6}) + \sin^2(\frac{\pi}{6})$	$= \frac{1 - \tan^2(\frac{\pi}{6})}{1 + \tan^2(\frac{\pi}{6})}$

6

$$\cos(2 \cdot \frac{5\pi}{4})$$

Complete the double-angle identity for this expression

A	B
$= 2\cos^2(\frac{5\pi}{4}) + 1$	$= 1 - 2\sin^2(\frac{5\pi}{4})$

7

$$\cos(2 \cdot \frac{5\pi}{3})$$

Complete the double-angle identity for this expression

A	B
$= \frac{\tan^2(\frac{5\pi}{3}) - 1}{1 + \tan^2(\frac{5\pi}{3})}$	$= \cos^2(\frac{5\pi}{3}) - \sin^2(\frac{5\pi}{3})$

8

$$\tan(2 \cdot \frac{4\pi}{3})$$

Complete the double-angle identity for this expression

A	B
$= 2\tan(\frac{4\pi}{3})\cot(\frac{4\pi}{3})$	$= \frac{2\tan(\frac{4\pi}{3})}{1 - \tan^2(\frac{4\pi}{3})}$