

Verse:

Name:

Period:

Date:

*Pre-Calculus Worksheet*  
**Trig Equations #2**

Solve given that  $0 \leq x, y, \theta < 2\pi$

1.  $\cos 3\theta - \frac{\sqrt{3}}{2} = 0$

2.  $\cos 2\theta = -\frac{1}{2}$

3.  $\tan 3\theta - 1 = 0$

4.  $\sin \frac{\theta}{2} - \frac{\sqrt{3}}{2} = 0$

5.  $\sin 3\theta + \frac{1}{2} = 0$

6.  $\sec 2\theta - 1 = 0$

7.  $\tan 3\theta = \frac{\sqrt{3}}{3}$

8.  $\csc 2\theta - 1 = 0$

9.  $2\cos^2 y - 9\sin y + 3 = 0$

10.  $\tan^2 \theta - \sec \theta - 1 = 0$

11.  $\tan x - \sqrt{1 - 2\tan^2 x} = 0$

12.  $(\cos 2\theta)(\csc \theta - 1) = 0$

13. (rational functions)

Given  $f(x) = \frac{x^2 - 9}{x - 3}$  and  $g(x) = x + 3$ .

- Are the domains equal?
- Does  $f$  have a vertical asymptote? Explain.
- Are the graphs of the functions identical?

1.  $\frac{\pi}{18}, \frac{11\pi}{18}, \frac{13\pi}{18}, \frac{23\pi}{18}, \frac{25\pi}{18}, \frac{38\pi}{18}$

3.  $\frac{\pi}{12}, \frac{5\pi}{12}, \frac{3\pi}{4}, \frac{13\pi}{12}, \frac{17\pi}{12}, \frac{7\pi}{4}$

5.  $\frac{7\pi}{18}, \frac{11\pi}{18}, \frac{19\pi}{18}, \frac{23\pi}{18}, \frac{31\pi}{18}, \frac{35\pi}{18}$

7.  $\frac{\pi}{18}, \frac{7\pi}{18}, \frac{13\pi}{18}, \frac{19\pi}{18}, \frac{25\pi}{18}, \frac{31\pi}{18}$

9.  $\frac{\pi}{6}, \frac{5\pi}{6}$

11.  $\frac{\pi}{6}, \frac{5\pi}{6}$