1. $\sin^{-1}\left(\sin\frac{4\pi}{3}\right)=$

2. Solve $\sin 2x = -\sqrt{3}\cos x$.

3. $\sin^{-1}\left(\frac{-\sqrt{2}}{2}\right)=$

4. Given c = 54 mm, $A = 105^{o}$ and $C = 30^{o}$, ***exactly*** solve the triangle. Remember your units.

5. $\cos\left(\sin^{-1}\frac{-5}{7}\right)=$

6. Exactly solve $2\cos^2 x=\sqrt{3}\cos x$ for x.

7. $\cos\left(\sin^{-1}\frac{2}{3}+\tan^{-1}\frac{4}{5}\right)=$

8. Find the three angles of the triangle with sides of length 4 m, 5 m, and 6 m.

9. $\tan\left(\cos^{-1}\frac{-2}{5}\right)=$

10. Exactly solve $\frac{2\sin^2 x}{\cos x}+2\sqrt{3}\sin x-\tan x=\sqrt{3}$ for x on the interval $[0,2\pi)$.

11. $\sin^{-1}\left(\cos\left(\tan^{-1}(-1)\right)\right)=$

12. Given b = 40 m, c = 54 m, $B = 27^{o}$, solve the triangle. Round the answers to 2 decimal places. Remember your units.

13. $\csc\left(\tan^{-1}\frac{-3}{2}\right)=$

14. Exactly solve $\sin(x)\cos(2x)=0$ for x.

15. If $0\le x\le\frac{1}{10}$, what does $\sin\left(\cos^{-1}10x\right)$ equal?

16. $\sec\left(\tan^{-1}\left(\frac{5}{x}\right)\right)=$

17. Given $a = 40$ cm, $c = 84$ cm, $A = 50^o$, solve the triangle. Round the answers to 2 decimal places. Remember your units.

18. $\sin\left(\sin^{-1}\frac{\pi}{2}\right) =$