

[trigonometry]

1.
 - a. x is an angle in the fourth quadrant. If $\cos x = \frac{3}{5}$, find $\sin x$ and $\cos x$.
 - b. In which quadrant(s) is $\tan x$ negative and $\cos x$ positive?
 - c. State two angles coterminal with an angle of 143°
2.
 - a. Change to radians:
 - i. 150°
 - ii. -135°
 - b. Change to degrees:
 - i. $\frac{5\pi}{6}$
 - ii. -1.3
3.
 - a. If $x = 30^\circ$, find the value of $\sin^2 x + \cos^2 x$.
 - b. Find:
 - i. $\sin(-225^\circ)$
 - ii. $\tan 120$
 - iii. $\cos 54^\circ$
 - iv. $\tan 228^\circ$
4. State the amplitude, period, and phase shift for the functions below and sketch the graph.
 - a. $y = 3 \cos 2x, 0 \leq x \leq 2\pi$
 - b. $y = 2 \cos\left(\frac{x+\pi}{2}\right)$
5. Sketch $y = \sec x$ for one full period. Label your sketch fully. State domain and range.
6. Sketch $y = -2 \sin\left(2x - \frac{\pi}{3}\right)$
7. Solve the following quadratic equations:
 - a. $6x^2 + 13x + 7 = 0$
 - b. $4x^2 - x - 1 = 0$
 - c. $x^2 + 5x = 0$