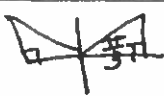





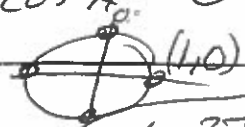
Find the SINGLE angle for each identity.

21. $\sin 15^\circ = \sin 50^\circ \cos 35^\circ - \cos 50^\circ \sin 35^\circ$	22. $\cos 85^\circ = \cos 50^\circ \cos 35^\circ - \sin 50^\circ \sin 35^\circ$
23. $\cos 80^\circ = \cos^2 40^\circ - \sin^2 40^\circ$	24. $\tan 80^\circ = \frac{\tan 95^\circ - \tan 15^\circ}{1 + \tan 95^\circ \tan 15^\circ}$
25. $\cos 130^\circ = -1 - 2\sin^2 (55^\circ)$	26. $\sin 70^\circ = 2\sin 35^\circ \cos 35^\circ$

VI. Solve for x: general form where x is in radians

27. $2\sin x = \sqrt{3}$ $\sin x = \frac{\sqrt{3}}{2}$ 	28. $9\cos x - 1 = \cos x + 3$ $8\cos x - 4 = 0$ $\cos x = \frac{1}{2}$ 
$x = \frac{\pi}{3} + 2\pi n$ OR $x = \frac{2\pi}{3} + 2\pi n$	$x = \frac{\pi}{3} + 2\pi n$ OR $x = \frac{5\pi}{3} + 2\pi n$
29. $-2\sqrt{3}\sec x = 4$ $\sec x = -\frac{2}{\sqrt{3}}$ $\cos x = -\frac{\sqrt{3}}{2}$ 	30. $4\sin^2 x = 1$ $\sin^2 x = \frac{1}{4}$ $\sin x = \pm \frac{1}{2}$ 
$x = \frac{5\pi}{6} + 2\pi n$ OR $x = \frac{7\pi}{6} + 2\pi n$	$x = \frac{\pi}{6} + \pi n$ OR $x = \frac{5\pi}{6} + \pi n$
31. $2\cos^2 x - 7\cos x + 3 = 0$ $\sin x \cos x = \sin x = 0$ $(\cos x - 3)(2\cos x - 1) = 0$ $\cos x = 3$ N.S. $\cos x = \frac{1}{2}$ $x = \frac{\pi}{3} + 2\pi n$ $x = -\frac{\pi}{3} + 2\pi n$	32. $\sin x \cos x - \sin x = 0$ $\sin x (\cos x - 1) = 0$ $\sin x = 0$ $\cos x = 1$ $x = 0 + \pi n$ $x = 0 + 2\pi n$

Solve for x: where $0 \leq x < 2\pi$

33. $1 - \sqrt{3} \cot(3x) = 0$ $\cot(3x) = \frac{1}{\sqrt{3}}$ $\tan(3x) = \sqrt{3}$ $3x = \frac{\pi}{3} + \pi n$ $x = \frac{\pi}{9} + \frac{\pi n}{3}$ $\frac{\pi}{9}, \frac{4\pi}{9}, \frac{7\pi}{9}, \frac{10\pi}{9}, \frac{13\pi}{9}, \frac{16\pi}{9}$	34. $2\cos^2 x + 3\cos x - 2 = 0$ $(2\cos x - 1)(\cos x + 2) = 0$ $\cos x = \frac{1}{2}$ $\cos x = -2$ N.S. $x = \frac{\pi}{3}, \frac{5\pi}{3}$ $\frac{-4}{-1} = 4$ $\frac{-4}{-2} = 2$ $\frac{-4}{-4} = 1$
35. $\tan^2 x + \sec x = 1$ $\sec^2 x - 1 + \sec x - 1 = 0$ $\sec^2 x + \sec x - 2 = 0$ $(\sec x - 1)(\sec x + 2) = 0$ $\sec x = 1$ $\cos x = 1$ $\cos x = -\frac{1}{2}$ $x = 0$ OR $x = \frac{4\pi}{3}, \frac{5\pi}{3}$ $\tan^2 x + 1 = \sec^2 x$ $\tan^2 x = \sec^2 x - 1$	36. $\sin 2x - \cos x = 0$ $2\sin x \cos x - \cos x = 0$ $\cos x (2\sin x - 1) = 0$ $\cos x = 0$ $2\sin x - 1 = 0$ $\sin x = \frac{1}{2}$  $\frac{\pi}{2}, \frac{3\pi}{2}, \frac{\pi}{6}, \frac{5\pi}{6}$