$\sin x = \frac{1}{2}$ $\quad$ ARCSIN $\left(\frac{1}{2}\right)$ $= \frac{\pi}{6}$

$\frac{5}{6}\pi + 2k\pi$

Es 40

$\csc x = -2$

$\frac{1}{\sin x} = -2$ $\quad$ $x_1 \; \frac{11}{6}\pi + 2k\pi$

$\frac{7}{6}\pi + 2k\pi$

$\sin x = -\frac{1}{2}$

Es 41

$(\sin 3x - 2)(\sin 3x - 3) = (\sin 3x + 2)(\sin 3x + 3)$

$\sin^2 3x - 5\sin 3x + 6 = \sin^2 3x + 5\sin 3x + 6$

$-10 \sin 3x \rightarrow \sin 3x = 0$

Es 33 pag 572

$8 \sin 8x = 8$

$\sin 8x = 1$

ARCSIN $(1) = \frac{\pi}{2}$ $\quad$ $\frac{\frac{\pi}{2}}{8} = \frac{\pi}{16} + \frac{2k\pi}{8}$

$\frac{1}{2}$ in $\frac{\pi}{4}$

Es 51 pag 572

$3\sin x - 10 = 2(\sin x - 1)$

$3\sin x - 10 = 2\sin x - 2$

$\sin x = 8$ $\quad \rightarrow$ impossibile

ES 54 PAG 572

$\sin x + 3 = 2\sin x + 2$

$-\sin x = -1$

$\sin x = 1 \qquad \frac{\pi}{2} + 2k\pi$

ES 76 PAG 575

$2\cos x - 2 + 3 = 3\cos x - 2 - 2\cos x + 6$

$\cos x = -1 \qquad \pi + 2k\pi$

~~ES 80 PAG 575~~

ES 42 PAG 573

$\left|\sin\left(x - \frac{\pi}{6}\right)\right| = 1$

$x - \frac{\pi}{6} = \arcsin(\pm 1)$

$x - \frac{\pi}{6} = \frac{\pi}{2}$

$x = \frac{2}{3}\pi + 2k\pi$

$\frac{2k\pi}{8}$

$\sim \frac{1}{4}\pi$

ES 43 PAG 573

$2\sin x - 2\cos 45 = 2(\sqrt{2}\sin 60 - \sin x)$

$2\sin x - \sqrt{2} = \sqrt{6} - 2\sin x$

$4\sin x = \sqrt{2} + \sqrt{6} \qquad x = 75 + 2k\pi$

$\sin x = \frac{\sqrt{2}+\sqrt{6}}{4} \qquad x = 105 + 2k\pi$

ES 44 PAG 573

$2 \sin 3x = 1$

$\sin 3x = \frac{1}{2}$ $\quad \frac{\pi}{6}$ $\quad \frac{\pi}{3}$ $\quad x = \frac{\pi}{18} + 2k\pi$

ES 45 PAG 573

$\sin \alpha = \frac{3}{4}$ $\quad \arcsin\left(\frac{3}{4}\right) = 48,57^\circ \rightarrow \simeq 49^\circ$

ES 46 PAG 573

$y = 2 \sin x \qquad y = -\sqrt{2}$

$2 \sin x = -\sqrt{2}$

$\sin x = -\frac{\sqrt{2}}{2}$

$x_1 = \frac{5}{4}\pi + 2k\pi \quad -\frac{\pi}{4}$

$x_2 = -\frac{3}{4}\pi$

ES 47 PAG 573

$y = \sin x - 1$

ES 48 PAG 573

$y = \sin\left(x - \frac{\pi}{3}\right) \qquad y = \frac{\sqrt{3}}{2}$

$\sin\left(x - \frac{\pi}{3}\right) = \frac{\sqrt{3}}{2}$

$x - \frac{\pi}{3} = \text{arc}\sin\left(\frac{\sqrt{3}}{2}\right)$

$x - \frac{\pi}{3} = \frac{\pi}{3}$

$x = \frac{2}{3}\pi + 2k\pi$

$A\left(\frac{2}{3}\pi ; \frac{\sqrt{3}}{2}\right)$

$x - \frac{\pi}{3} = \pi - \frac{\pi}{3}$

$B\left(\pi ; \frac{\sqrt{3}}{2}\right)$

$x - \frac{\pi}{3} = \frac{2}{3}\pi$

$x = \pi + 2k\pi$

ES 80 PAG 575

$2\sqrt{3}\cos(x+1) + 10 = 3 - 2[1 + 2\sqrt{3}\cos(x+1)]$

$2\sqrt{3}\cos(x+1) = 3 - 2 - 10 - 4\sqrt{3}\cos(x+1)$

$6\sqrt{3}\cos(x+1) = -9$

$\cos(x+1^\circ) = -\frac{\sqrt{3}}{2}$

$x + 1 = 150$

$x = 150 - 1 \quad \vee \quad x = -150 + 2k\pi$

~~$\Rightarrow 360 - 151 = 149 \Rightarrow$~~

$x = -150 - 1 = -151 \; 2k\pi$

Es 82 pag 575

$2\cos x = 1$

$\cos x = \frac{1}{2}$

$x = \pm\frac{\pi}{3} + 2k\pi$

Es 83 pag 575

$\cos\left(x - \frac{\pi}{4}\right) = \frac{\sqrt{2}}{2}$

$x - \frac{\pi}{4} = \frac{\pi}{4}$

$x = \frac{2}{4}\pi + k2k\pi \rightarrow \frac{\pi}{2} + \frac{k\pi}{2}$

Es 85 pag 575

$x = \frac{1}{2} \qquad y = \cos\left(x - \frac{\pi}{4}\right)$

$\cos\left(x - \frac{\pi}{4}\right) = \frac{1}{2}$

$x - \frac{\pi}{4} = \frac{\pi}{3}$

$x_1 = \frac{7}{12}\pi \qquad x_2 = \frac{23}{12}\pi$

$d_1 = \sqrt{\left(\frac{7}{12}\pi\right)^2 + \left(\frac{1}{2}\right)^2} = \frac{\sqrt{49\pi^2 + 36}}{12}$

$d_2 = \sqrt{\left(\frac{23}{12}\pi\right)^2 + \left(\frac{1}{2}\right)^2} = \frac{\sqrt{529\pi^2 + 36}}{12}$

$A = \frac{d_1 * d_2}{2}$

ES 107 PAG 576

$3\tan 3x = -1 + 2\tan 3x$

$4\tan 3x = -1$

~~$\tan 3x$~~

$\frac{-\frac{\pi}{4}+k\pi}{3} = -\frac{\pi}{12} + k\frac{\pi}{3}$

ES 110 PAG 576

$-2\sqrt{3}\tan(x+100°) = 4[1+\sqrt{3}\tan(x+100°)]+2$

$-6\sqrt{3}\tan(x+100°) = 6$

$\tan(x+100°) = \frac{\sqrt{3}}{3}$

$x+100 = 30$

~~$x = 70° + k\pi$~~

~~$x + 30$~~

$x + $

$x = -70° + k\pi$

$x = -170° + k\pi$