$2\cos(\sqrt{x}+\pi/2)-\sqrt{3}=0.$

$$\sqrt{3}\cos\left(\pi\sqrt{x}\,\sqrt{6/x-x-4}\right)+$$
$$+3\sin\left(\pi x\sqrt{6/x^2-4/x-1}\right)=\sqrt{12}.$$

$$(2\sqrt{3}\sin(\pi x+3\pi)-\operatorname{tg}(\pi x-\pi/2))\times$$
$$\times\log_2(4-x^2)=0.$$

$x=\frac{1}{6}\operatorname{arctg}(\operatorname{tg}6x+\cos 7x).$

$x+\frac{1}{6}\arccos(\cos 15x+2\cos 4x\sin 2x)=\frac{\pi}{12}.$

$\log_{-\sin x}(\cos^2 x+\frac{1}{2}\sin 2x+1)=0.$

$\log_2(3\cos x-\sin x)+\log_2\sin x=0.$

$|\operatorname{tg}x|=\operatorname{tg}x-\frac{1}{\cos x}.$

$\sqrt{5\cos x-\cos 2x}+2\sin x=0.$

$2\log_\pi\sin x\cdot\log_\pi\sin 2x-\log_\pi^2\sin 2x\leqslant\log_\pi^2\sin x.$

$(\operatorname{tg}\frac{19\pi}{3}-\operatorname{tg}x)\sqrt{6\cos\frac{15\pi}{4}\cos\frac{x}{2}-\cos x-3}=0.$

$\log_3(2x+1)=2\log_{2x+1}3+1.$

$3\sqrt{\log_3 x}+\log_3 3x=11.$

$\sqrt{\log_4(x-5)}>\log_{1/4}\frac{64}{x-5}.$

$\sqrt[4]{8}\cos x-1=(\sqrt{2}-\sqrt[4]{2})\sqrt{\cos x}.$

$\sqrt{\log_9(3x^2-4x+2)}+1>\log_3(3x^2-4x+2).$