$2\sin x \cdot \cos^2 x + \cos^4 x = 2\sin x + \cos 2x + \cos^2 x$

$(\cos^2 x+\sin x)^2=2\sin x+\cos 2x+\cos^2 x+\sin^2 x$

$(\cos^2 x+\sin x)^2=2\sin x+\cos 2x+1$

$(\cos^2 x+\sin x)^2=2\sin x+2\cos^2 x$

$\sin x+\cos^2 x=t$

$t^2=2t$

$t^2-2t=0$

$t_1=0$

$t_2=2$

$\sin x+\cos^2 x=0$

$\sin x+\cos^2 x=2$

$\cos^2 x=1-\sin^2 x$

$\sin x+1-\sin^2 x=0$

$\sin^2 x-\sin x-1=0$

$\sin x=t$

$t^2-t-1=0$

$D=5$

$t_1=(1-v5)/2$

$t_2=(1+v5)/2$

$\sin x=(1-v5)/2$

$x=\arcsin((1-v5)/2)+2Pn$

$x=P-\arcsin((1-v5)/2)+2Pn$

Ответ: $\arcsin((1-v5)/2)+2Pn$; $P-\arcsin((1-v5)/2)+2Pn$.

$\sin x+\cos^2 x=2$

$\cos^2 x=1-\sin^2 x$

$\sin x+1-\sin^2 x-2=0$

$\sin^2 x-\sin x+1=0$

$\sin x=t$

$t^2-t+1=0$