$\sin 2x \cdot \sin(x+P/4)=1$
$\sin 2x=1$
$\sin(x+P/4)=1$

$2x=P/2+2Pk$
$x+P/4=P/2+2Pk$

$x=P/4+Pk$
$x=P/4+2Pk$

$x=P/4+2Pk$
Answer: $P/4+2Pk$

$\sin x \cdot \sin y = 1/2(\cos(x-y)-\cos(x+y))$

$\sin 2x \cdot \sin(x+P/4)=1$
$1/2(\cos(2x-x-P/4)-\cos(2x+x+P/4))=1$
$1/2(\cos(x-P/4)-\cos(3x+P/4))=1$
$(\cos(x-P/4)-\cos(3x+P/4))=2$
$\cos(x-P/4)=1$
$\cos(3x+P/4)=-1$

$x-P/4=2Pk$
$3x+P/4=P+2Pk$

$x=P/4+2Pk$
$3x=P+2Pk-P/4$

$x=P/4+2Pk/3$
Answer: $P/4+2Pk$