

テーマ：

関数の最大・最小





(ex)  $y = (1 + \sin x) \cos x \quad (0 \leq x \leq 2\pi)$

の最大値・最小値

$y' = 0$  かつ  $z$

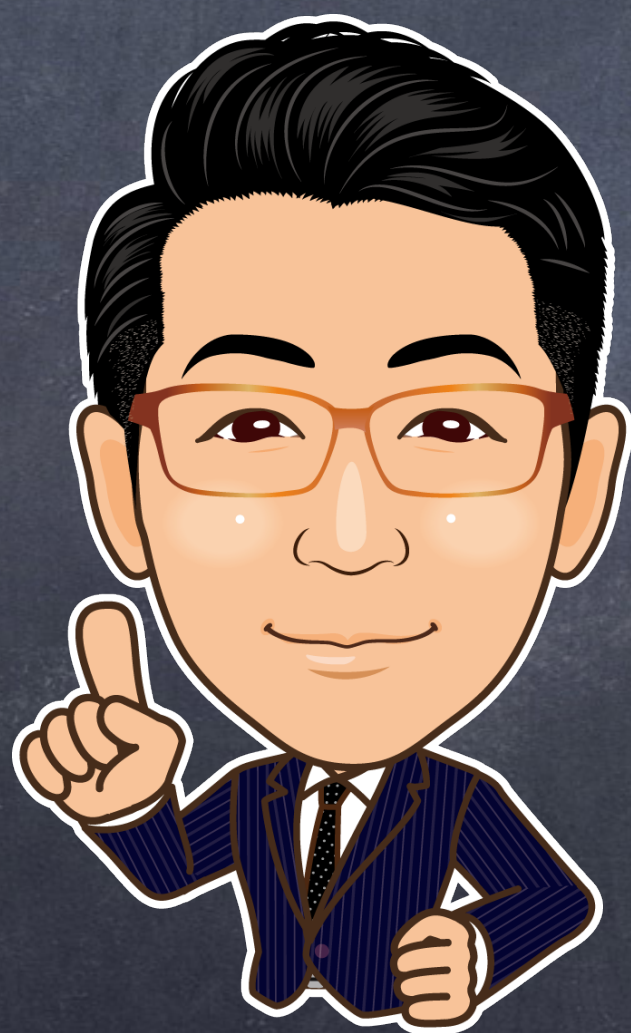
$\sin x = \frac{1}{2}, -1 \quad x = \frac{\pi}{6}, \frac{5}{6}\pi, \frac{3}{2}\pi$

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

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

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

$= -(2\sin x - 1)(\sin x + 1)$



$x$	0	...	$\frac{\pi}{6}$	...	$\frac{5}{6}\pi$	...	$\frac{3}{2}\pi$	...	$2\pi$
$y'$	/	+	0	-	0	+	0	+	/
$y$	1	↗	$\frac{3\sqrt{3}}{4}$	↘	$-\frac{3\sqrt{3}}{4}$	↗	0	↗	1

$x = \frac{\pi}{6}$  かつ  $z$  最大値  $\frac{3\sqrt{3}}{4}$ ,  $x = \frac{5}{6}\pi$  かつ  $z$  最小値  $-\frac{3\sqrt{3}}{4}$