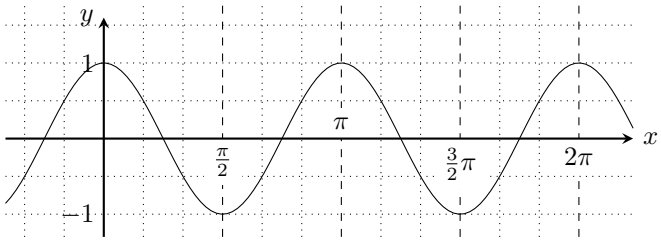
倍角の公式：$\cos 2\theta = \cos^2\theta - \sin^2\theta$
$= \cos^2\theta - (1 - \cos^2\theta)$
$= 2\cos^2\theta - 1$

$$\cos 2\theta = 2\cos^2\theta - 1$$

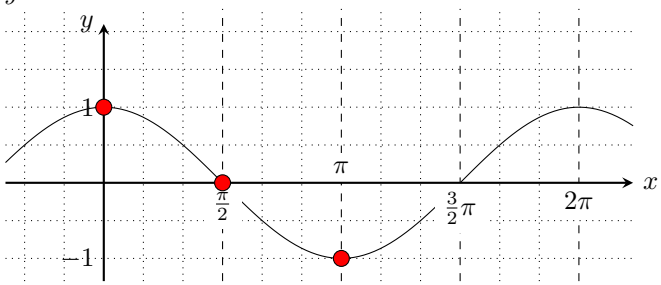
左辺が角度 2θ、右辺が角度 θ で違うのになぜ「等しい」？

（左辺）$y = \cos 2\theta$　→　周期が π

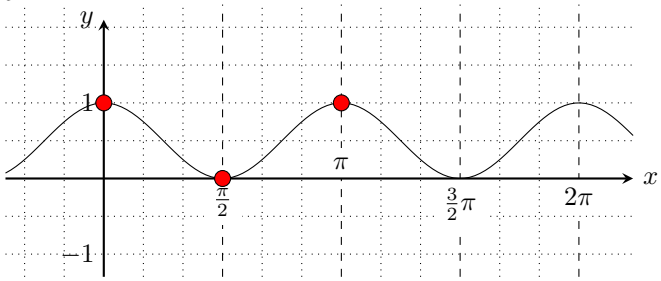


(右辺)$y = 2\cos^2\theta - 1$ はどんなグラフになるか？

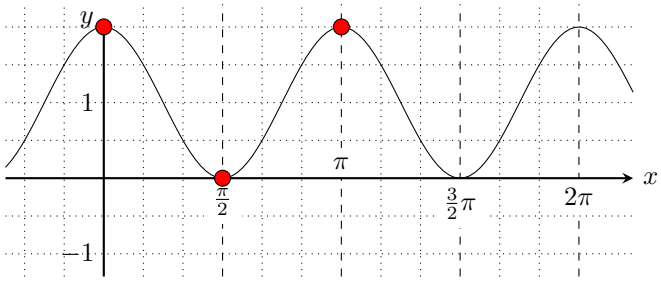
$y = \cos\theta$



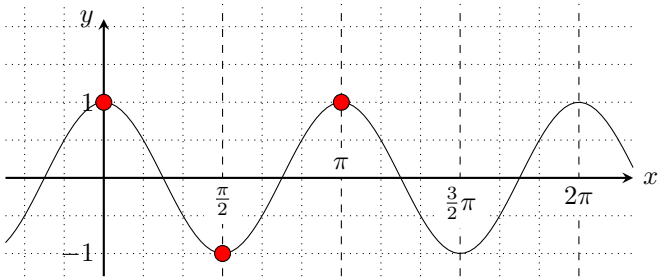
$y = \cos^2\theta$



$y = 2\cos^2\theta$



$y = 2\cos^2\theta - 1$

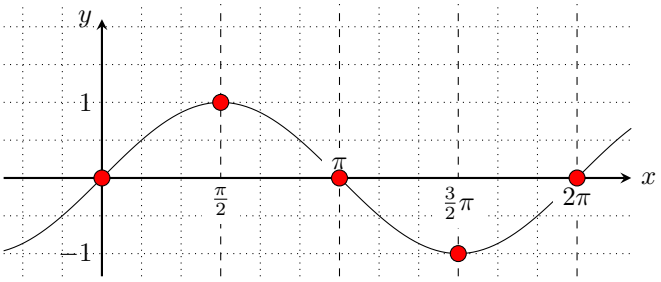


倍角の公式：$\cos 2\theta = \cos^2\theta - \sin^2\theta$
$= (1 - \sin^2\theta) - \sin^2\theta$
$= 1 - 2\sin^2\theta$

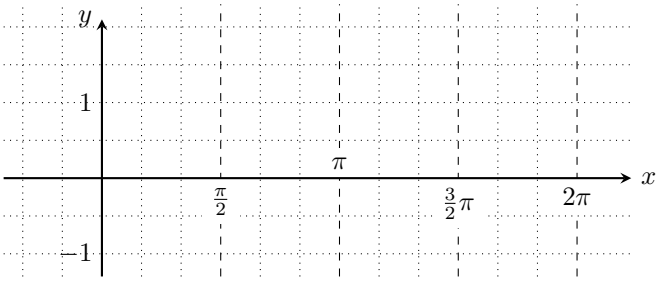
$$\cos 2\theta = 1 - 2\sin^2\theta$$

問 1　$y = 1 - 2\sin^2\theta$ と $y = \cos 2\theta$ のグラフが等しくなることをグラフを書いて示しなさい。

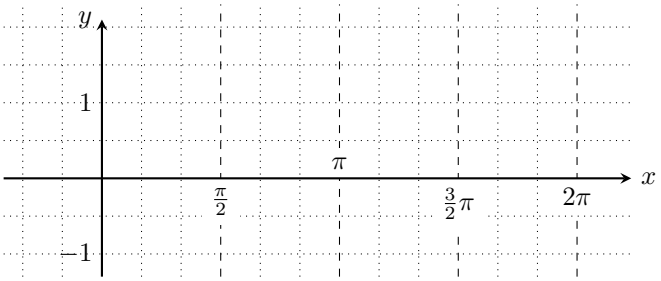
(1)　$y = \sin\theta$



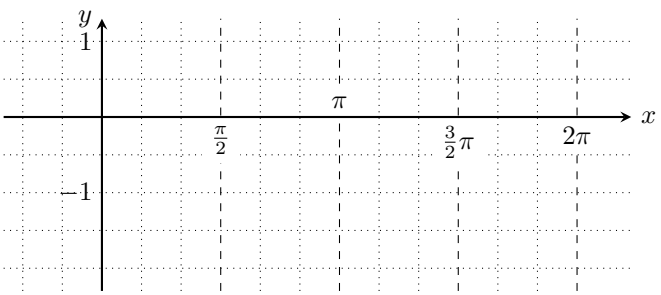
(2)　$y = \sin^2\theta$



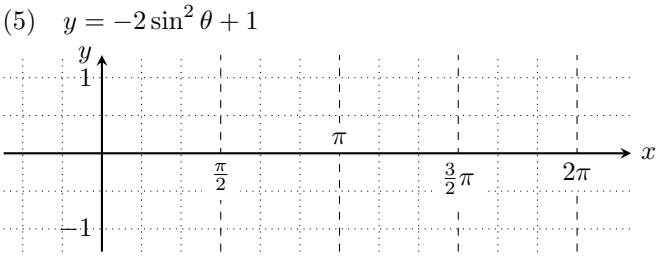
(3)　$y = 2\sin^2\theta$



(4)　$y = -2\sin^2\theta$



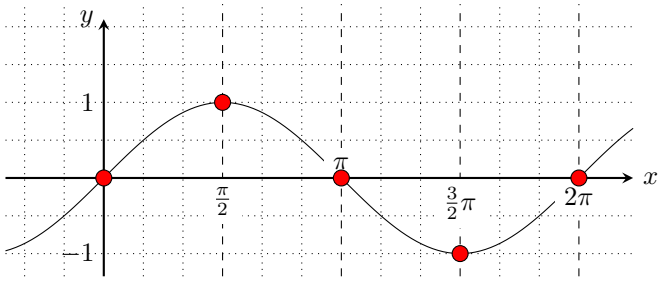
(5)　$y = -2\sin^2\theta + 1$



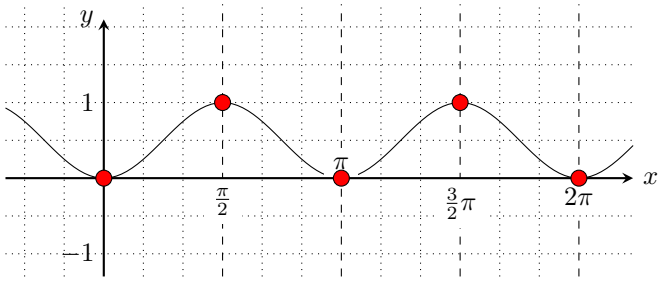
++*+*+*+*+*+*+*+ **【解答】** *+*+*+*+*+*+*+*+*+

問 1 $y = 1 - 2\sin^2\theta$ と $y = \cos 2\theta$ のグラフが等しくなることをグラフを書いて示しなさい。

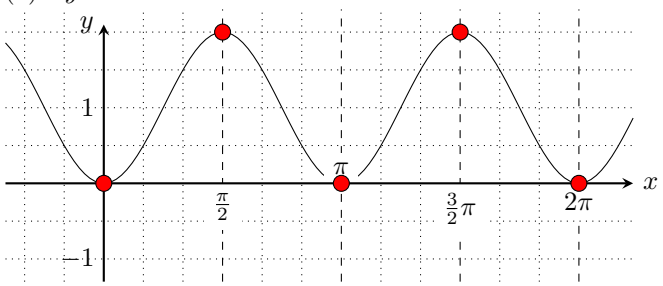
(1) $y = \sin\theta$



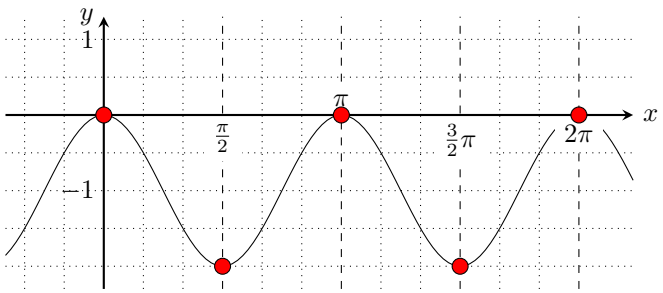
(2) $y = \sin^2\theta$



(3) $y = 2\sin^2\theta$



(4) $y = -2\sin^2\theta$



(5) $y = -2\sin^2\theta + 1$