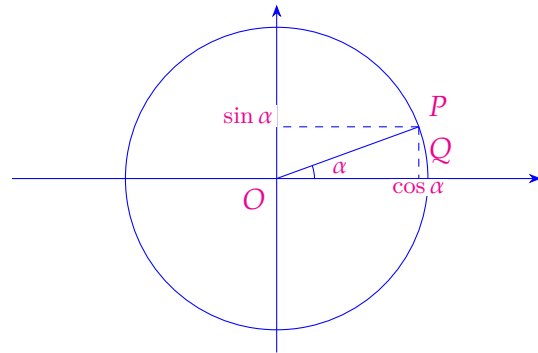
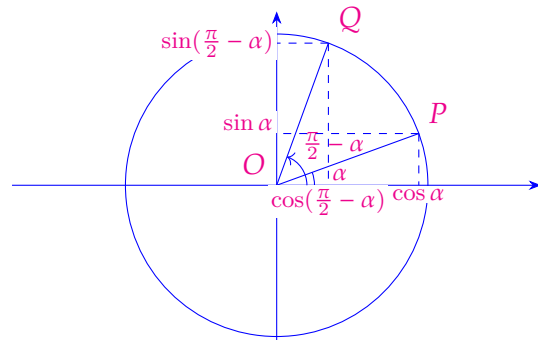


ចំពោះចំនួនគត់ណាមួយ  $k$  គេបាន

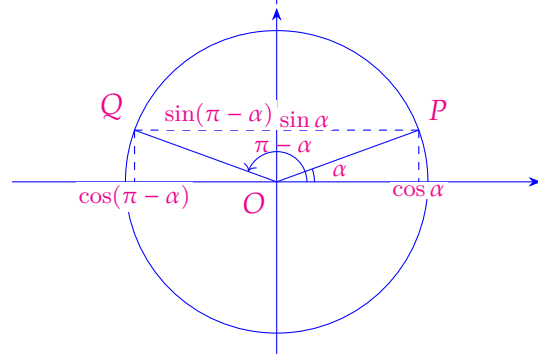
- (1)  $\sin(k2\pi + \alpha) = \sin \alpha$
- (2)  $\cos(k2\pi + \alpha) = \cos \alpha$
- (3)  $\tan(k2\pi + \alpha) = \tan \alpha$
- (4)  $\cot(k2\pi + \alpha) = \cot \alpha$



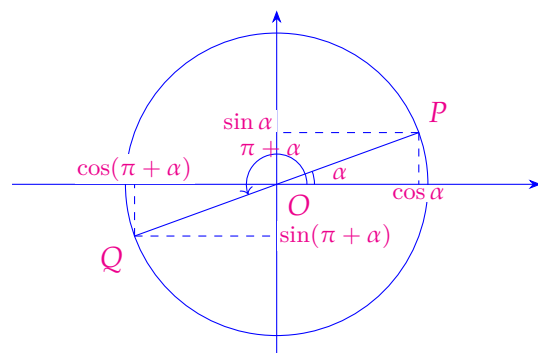
- (5)  $\sin(\frac{\pi}{2} - \alpha) = \cos \alpha$
- (6)  $\cos(\frac{\pi}{2} - \alpha) = \sin \alpha$
- (7)  $\tan(\frac{\pi}{2} - \alpha) = \cot \alpha$
- (8)  $\cot(\frac{\pi}{2} - \alpha) = \tan \alpha$



- (9)  $\sin(\pi - \alpha) = \sin \alpha$
- (10)  $\cos(\pi - \alpha) = -\cos \alpha$
- (11)  $\tan(\pi - \alpha) = -\tan \alpha$
- (12)  $\cot(\pi - \alpha) = -\cot \alpha$



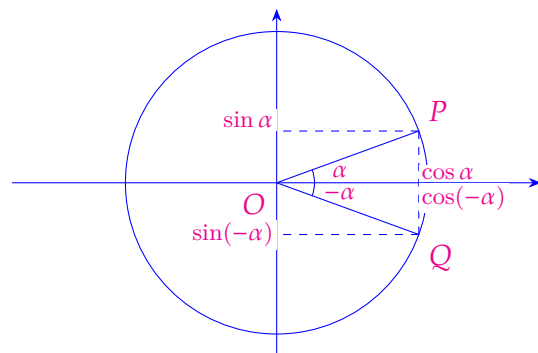
- (13)  $\sin(\pi + \alpha) = -\sin \alpha$
- (14)  $\cos(\pi + \alpha) = -\cos \alpha$
- (15)  $\tan(\pi + \alpha) = \tan \alpha$
- (16)  $\cot(\pi + \alpha) = \cot \alpha$



ក្នុងករណីនេះគេបាន

- (17)  $\tan(k\pi + \alpha) = \tan \alpha$
- (18)  $\cot(k\pi + \alpha) = \cot \alpha$

- (19)  $\sin(-\alpha) = -\sin \alpha$
- (20)  $\cos(-\alpha) = \cos \alpha$
- (21)  $\tan(-\alpha) = -\tan \alpha$
- (22)  $\cot(-\alpha) = -\cot \alpha$



$$(23) \quad \cos^2 \alpha + \sin^2 \alpha = 1$$

$$(24) \quad \cos(\alpha - \beta) = \cos \alpha \cos \beta + \sin \alpha \sin \beta$$

$$(25) \quad \cos(\alpha + \beta) = \cos \alpha \cos \beta - \sin \alpha \sin \beta$$

$$(26) \quad \sin(\alpha + \beta) = \sin \alpha \cos \beta + \cos \alpha \sin \beta$$

$$(27) \quad \sin(\alpha - \beta) = \sin \alpha \cos \beta - \cos \alpha \sin \beta$$

$$(28) \quad \cos 2\alpha = \cos^2 \alpha - \sin^2 \alpha$$

$$(29) \quad \cos 2\alpha = 2 \cos^2 \alpha - 1$$

$$(30) \quad \cos 2\alpha = 1 - 2 \sin^2 \alpha$$

$$(31) \quad \sin 2\alpha = 2 \sin \alpha \cos \alpha$$

$$(32) \quad 1 - \cos \alpha = 2 \sin^2 \frac{\alpha}{2}$$

$$(33) \quad 1 + \cos \alpha = 2 \cos^2 \frac{\alpha}{2}$$

$$(34) \quad \cos \alpha \cos \beta = \frac{1}{2}(\cos(\alpha - \beta) + \cos(\alpha + \beta))$$

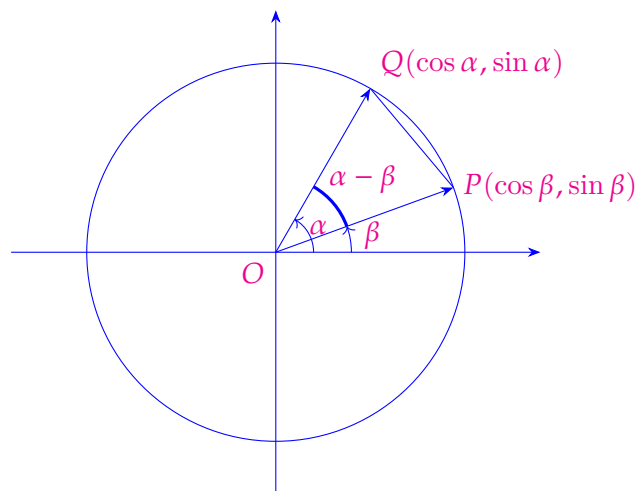
$$(35) \quad \sin \alpha \sin \beta = \frac{1}{2}(\cos(\alpha - \beta) - \cos(\alpha + \beta))$$

$$(36) \quad \sin \alpha \cos \beta = \frac{1}{2}(\sin(\alpha + \beta) + \sin(\alpha - \beta))$$

$$(37) \quad \cos \alpha \sin \beta = \frac{1}{2}(\sin(\alpha + \beta) - \sin(\alpha - \beta))$$

$$(38) \quad \cos \alpha + \cos \beta = 2 \sin\left(\frac{\alpha + \beta}{2}\right) \sin\left(\frac{\alpha - \beta}{2}\right)$$

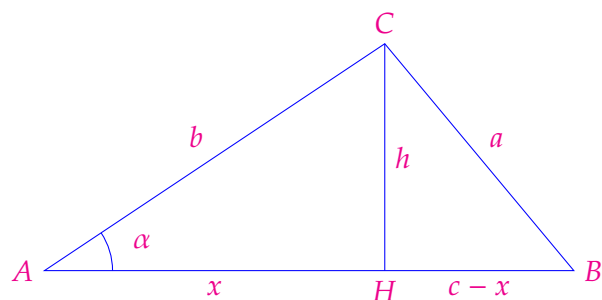
$$(39) \quad \cos \alpha - \cos \beta = -2 \cos\left(\frac{\alpha + \beta}{2}\right) \cos\left(\frac{\alpha - \beta}{2}\right)$$



$$\vec{OP} \cdot \vec{OQ} = OP \cdot OQ \cdot \cos(\alpha - \beta)$$

$$\cos \beta \cos \alpha + \sin \beta \sin \alpha = 1 \cdot 1 \cdot \cos(\alpha - \beta)$$

$$\cos \alpha \cos \beta + \sin \alpha \sin \beta = \cos(\alpha - \beta)$$



$$x^2 + h^2 = b^2$$

$$(c - x)^2 + h^2 = a^2$$

$$x = \frac{-a^2 + b^2 + c^2}{2c}$$

$$\cos \alpha = \frac{x}{b} = \frac{-a^2 + b^2 + c^2}{2bc}$$

ព្យាយាមទាញរករូបមន្តដោយខ្លួនឯងសម្រាប់  $\tan$  និង  $\cot$  ។