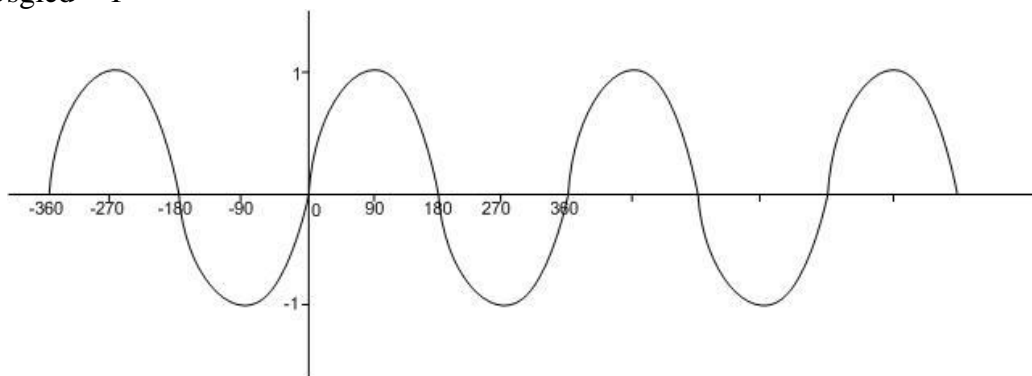


# Graffiau Trigonometrig, Osgled, Cyfnod ac Ongl Wedd

$\sin x$

Ffwythiant cyfnodol, gyda chyfnod =  $360^\circ$  (neu  $2\pi^c$ )

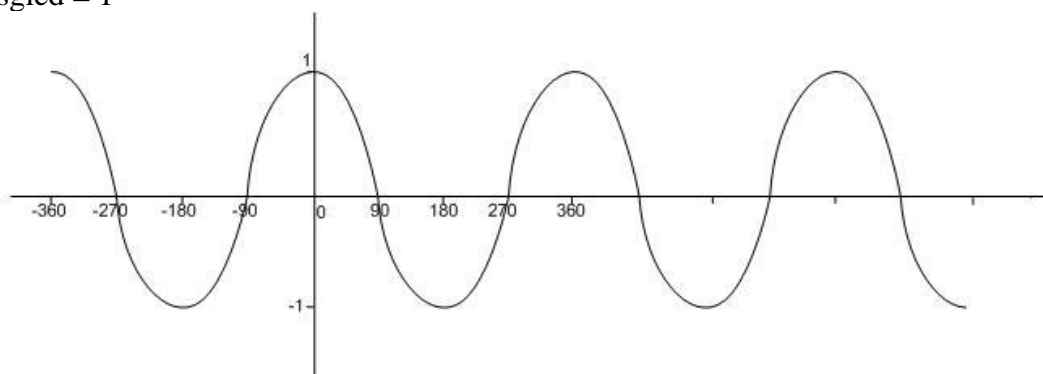
Osgled = 1



$\cos x$

Ffwythiant cyfnodol, gyda chyfnod =  $360^\circ$  (neu  $2\pi^c$ )

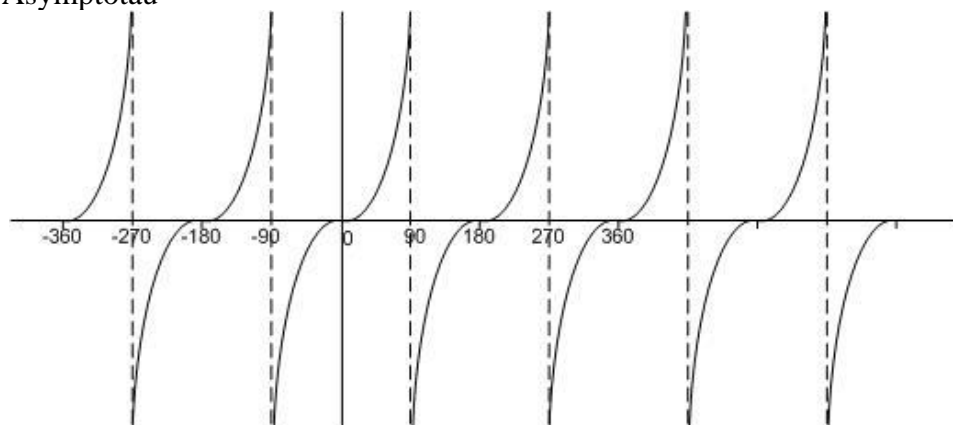
Osgled = 1



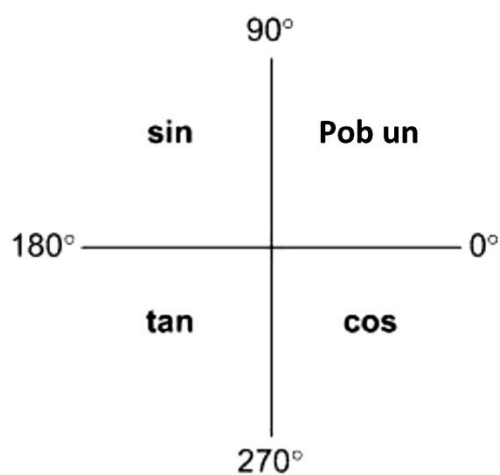
$\tan x$

Ffwythiant cyfnodol, gyda chyfnod =  $180^\circ$  (neu  $\pi^c$ )

Asymptotau



Pedrannau lle mae ffwythiannau sin, cos a tan yn bositif:



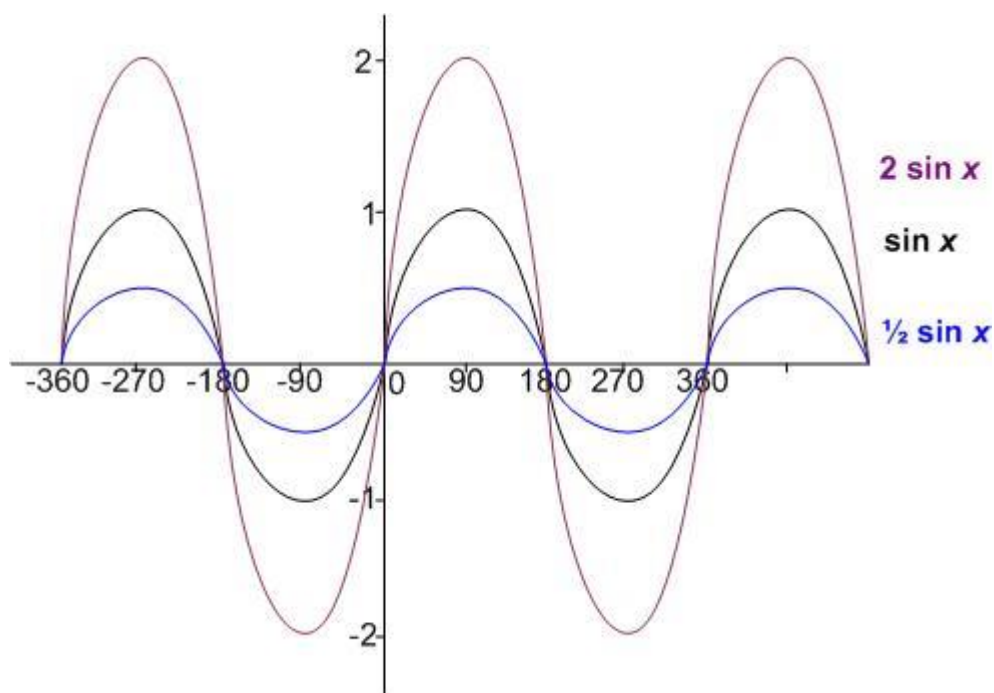
**Osgled:** y pellter o ganol y mudiant i'r naill eithaf neu'r llall

### Enghreifftiau

Mae gan  $2 \sin x$  osgled o 2

Mae gan  $\sin x$  osgled o 1

Mae gan  $\frac{1}{2} \sin x$  osgled o  $\frac{1}{2}$



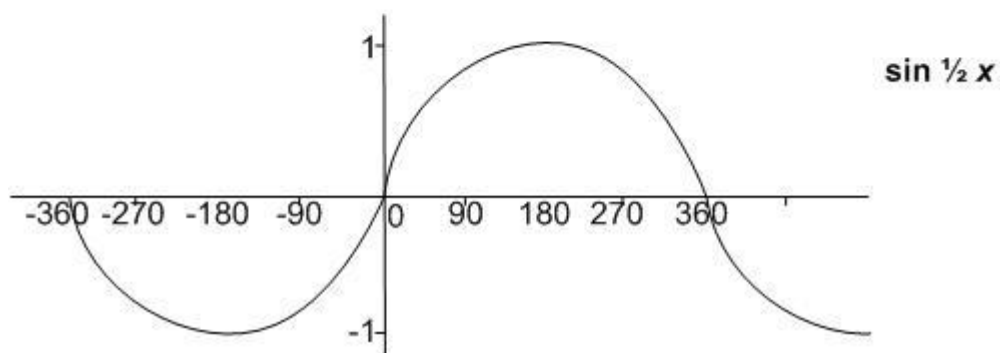
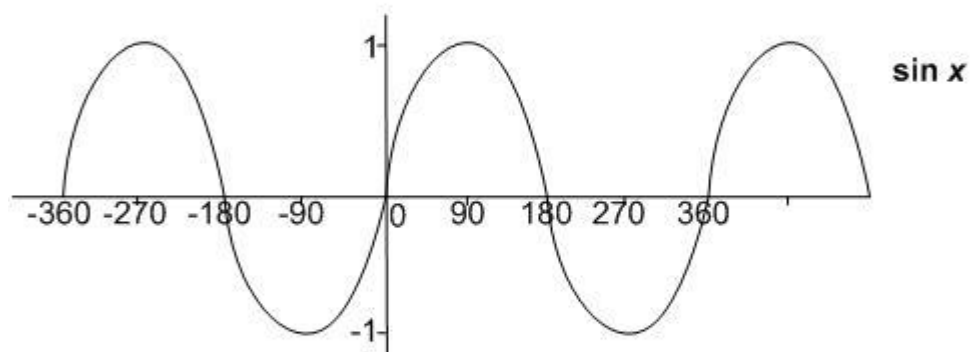
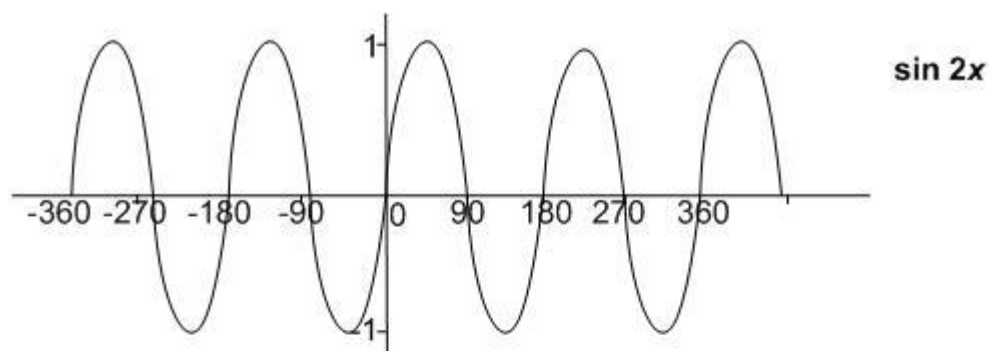
**Cyfnod:** yr amser mae'n ei gymryd i wneud un cylchred cyfan

**Enghreifftiau**

Mae gan  $\sin 2x$  gyfnod o  $180^\circ$

Mae gan  $\sin x$  gyfnod o  $360^\circ$

Mae gan  $\sin \frac{1}{2}x$  gyfnod o  $720^\circ$



| Ffwythiant | Cyfnod                                     |
|------------|--|
| $\sin(nx)$ | $\frac{360^\circ}{n}$ neu $\frac{2\pi}{n}$ |
| $\cos(nx)$ | $\frac{360^\circ}{n}$ neu $\frac{2\pi}{n}$ |
| $\tan(nx)$ | $\frac{180^\circ}{n}$ neu $\frac{\pi}{n}$  |

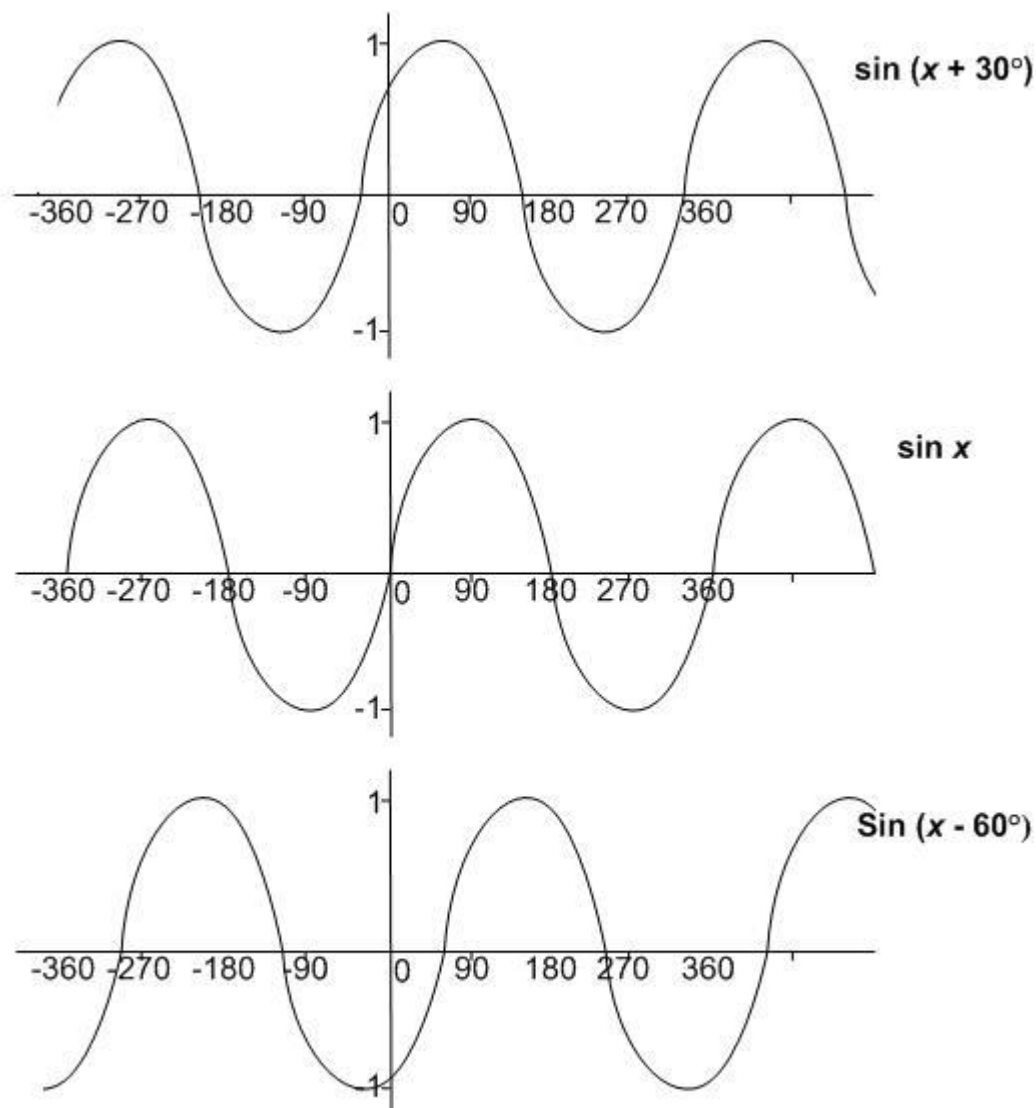
**Ongl Wedd:** pa mor bell i'r chwith neu'r dde mae'r don wedi symud

**Enghreifftiau**

$\sin(x + 30^\circ)$  yr ongl wedd yw  $30^\circ$

$\sin x$  yr ongl wedd yw  $0^\circ$

$\sin(x - 60^\circ)$  yr ongl wedd yw  $-60^\circ$



**Ongl wedd positif → symud i'r chwith (cyfeiriad negatif)**

**Ongl wedd negatif → symud i'r dde (cyfeiriad positif)**