


# Trawsffurfiadau Graffiau

*Transformations of Graphs*



 @mathemateg

 /adolygumathemateg

# Trawsffurfiadau Graffiau / Transformations of Graphs

Mae disgwyl i chi fod yn gyfarwydd â'r trawsffurfiadau canlynol o graff cyffredinol  $y = f(x)$ .  
*You are expected to be familiar with the following transformations of the general graph  $y = f(x)$ .*

$$y = af(x)$$

Ymestyn neu gywasgu ar hyd yr echelin- $y$ .  
*Stretch or compress along the  $y$ -axis.*

$$y = f(x) + a$$

Trawsfudo  $a$  uned ar hyd yr echelin- $y$ .  
*Translate  $a$  units along the  $y$ -axis.*

$$y = f(ax)$$

Cywasgu neu ymestyn ar hyd yr echelin- $x$ .  
*Compress or stretch along the  $x$ -axis.*

$$y = f(x + a)$$

Trawsfudo  $a$  uned ar hyd yr echelin- $x$ .  
*Translate  $a$  units along the  $x$ -axis.*

$a = 5 \Rightarrow$  trawsfudo 5 uned i fyny / translate 5 units up

$a = 5 \Rightarrow$  trawsfudo 5 uned i'r chwith / translate 5 units to the left

Achosion arbennig: / *Special cases:*

$$y = -f(x)$$

Adlewyrchu yn yr echelin- $x$ . / *A reflection in the  $x$ -axis.*

$$y = f(-x)$$

Adlewyrchu yn yr echelin- $y$ . / *A reflection in the  $y$ -axis.*