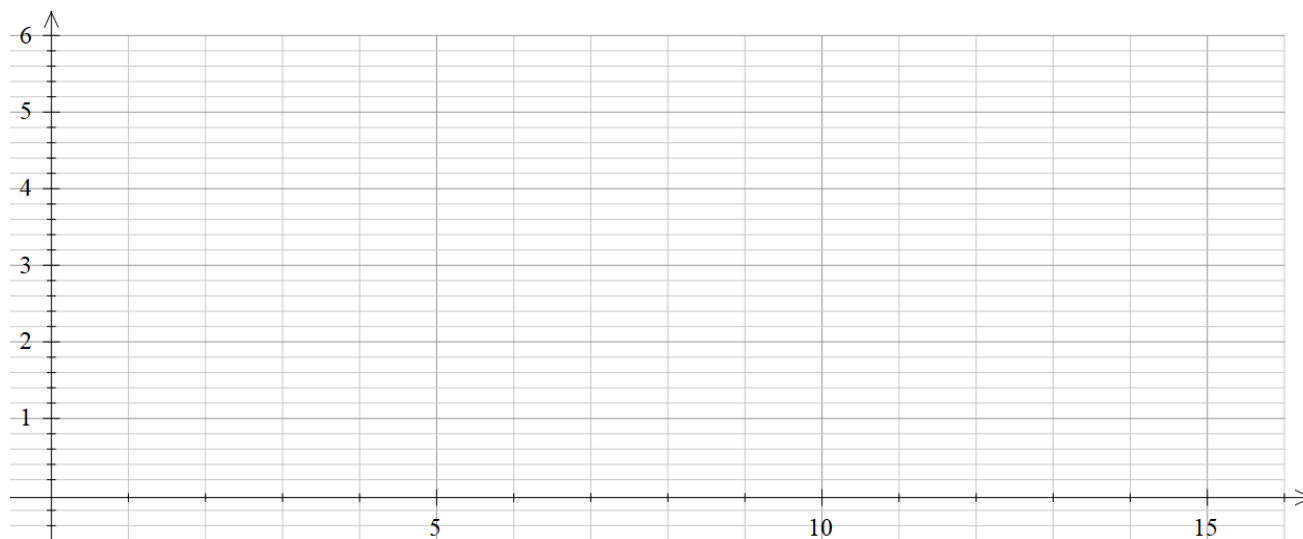


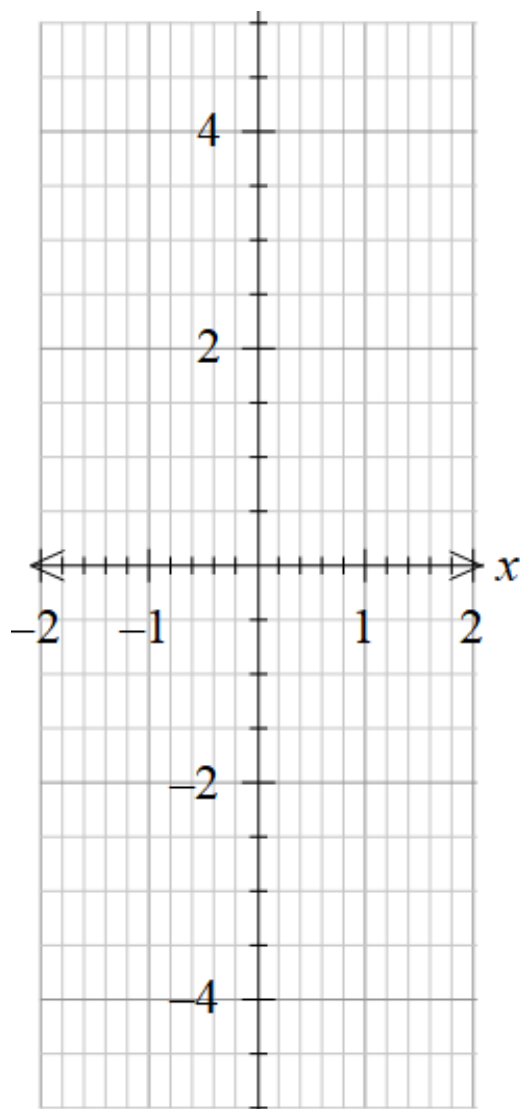
# TRANSFORMATIONS OF GRAPHS USING $y = f(ax)$ AND $y = f[a(x+b)]$

1 On the same diagram, draw the graph of each equation, stating the dilation and describe any changes to the position of the original graph:

(a)  $y = \sqrt{x}$ ,  $y = \sqrt{2x}$ ,  $y = \sqrt{2(x-3)}$

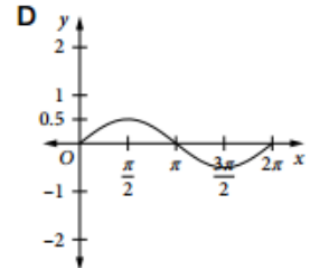
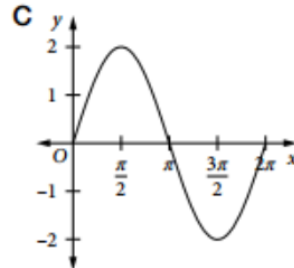
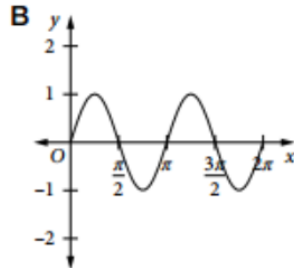
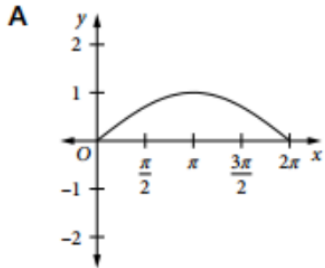
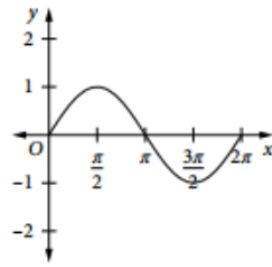


(b)  $y = \tan x$ ,  $y = \tan 2x$ ,  $y = \tan 2\left(x + \frac{\pi}{6}\right)$  for  $-\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$



# TRANSFORMATIONS OF GRAPHS USING $y = f(ax)$ AND $y = f[a(x+b)]$

5 The diagram to the right shows the graph of  $y = f(x)$ .  
Which diagram below shows the graph of  $y = f\left(\frac{x}{2}\right)$ ?



## Revision

4 The diagram to the right shows the graph of  $y = f(x)$ .  
Which diagram below shows the graph of  $y = 3f(x)$ ?

