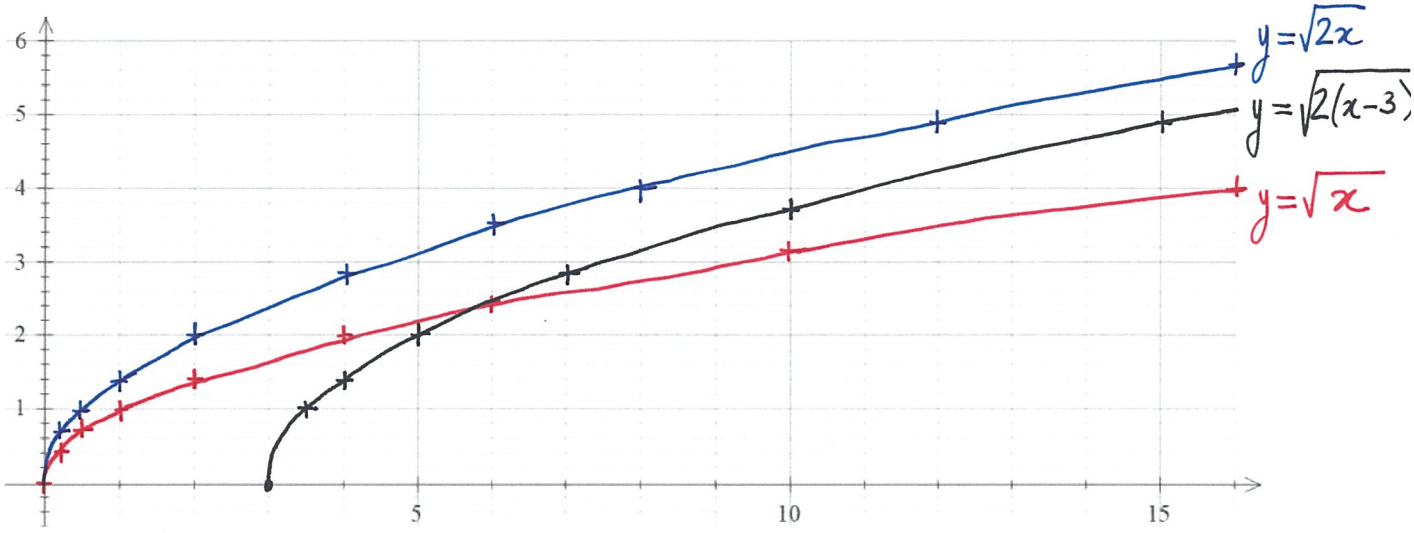
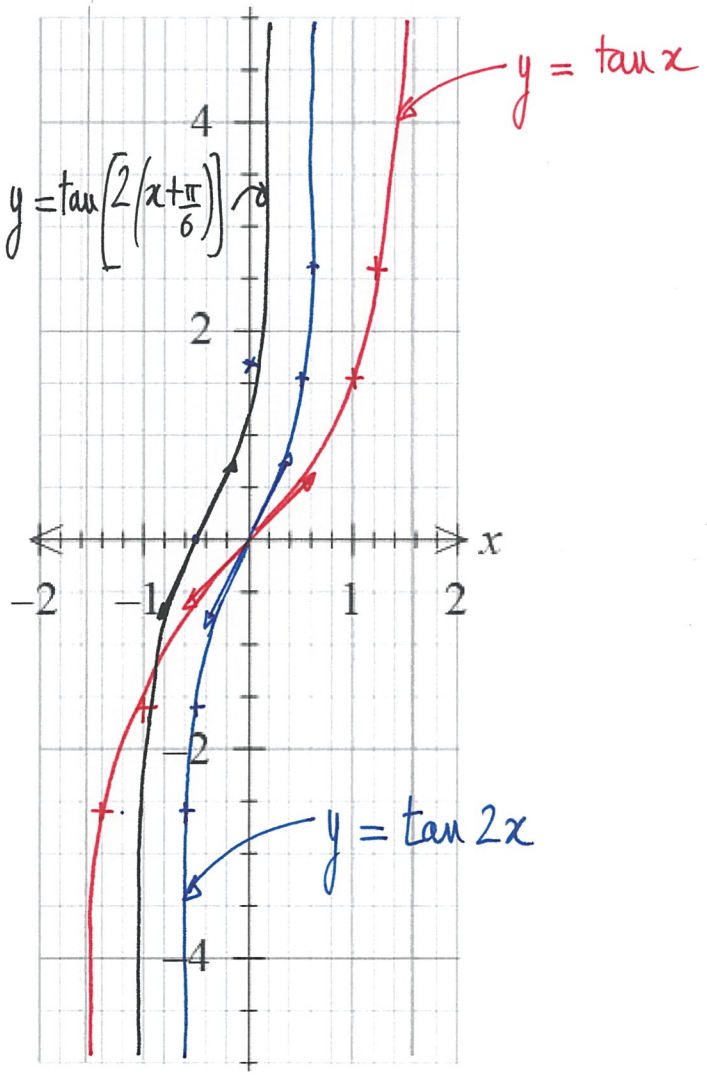
TRANSFORMATIONS OF GRAPHS USING $y = f(ax)$ AND $y = f[a(x+b)]$

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

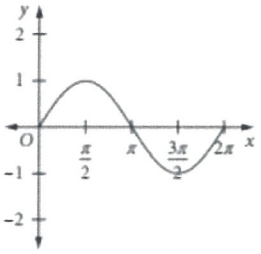


(b) $y = \tan x, y = \tan 2x, y = \tan 2\left(x + \frac{\pi}{6}\right)$ for $-\frac{\pi}{2} \le x \le \frac{\pi}{2}$

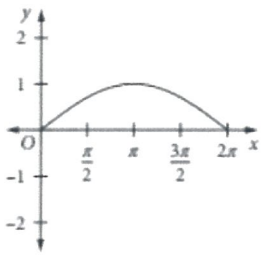


TRANSFORMATIONS OF GRAPHS USING $y = f(ax)$ AND $y = f[a(x+b)]$

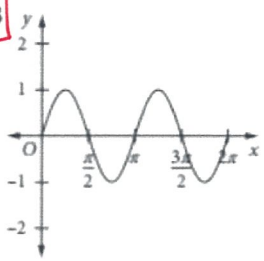
5 The diagram to the right shows the graph of $y = f(x)$.
Which diagram below shows the graph of $y = f\left(\frac{x}{2}\right)$?



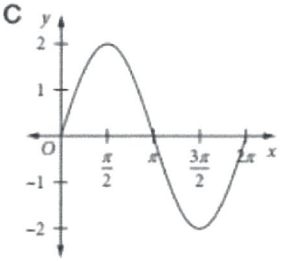
A



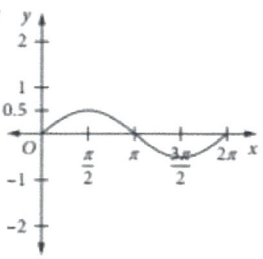
B



C

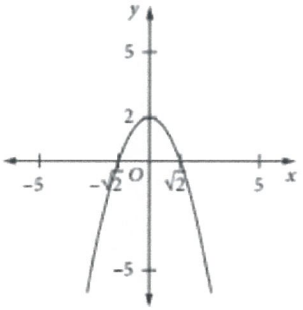


D

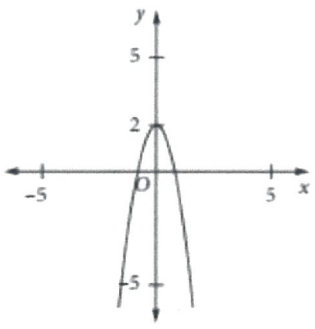


Revision

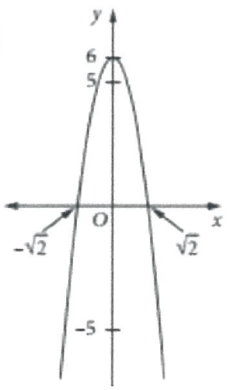
4 The diagram to the right shows the graph of $y = f(x)$.
Which diagram below shows the graph of $y = 3f(x)$?



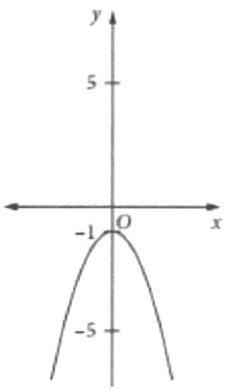
A



B



C



D