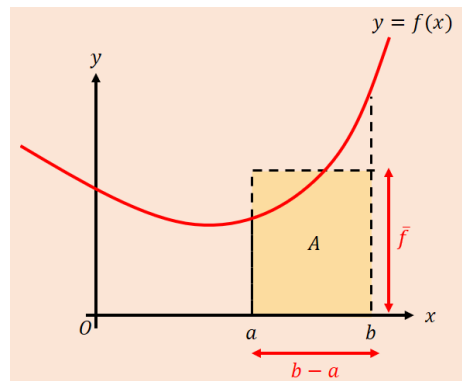
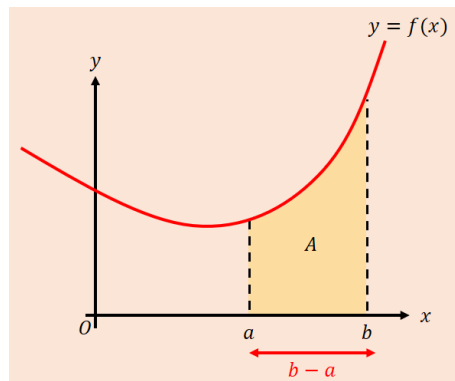
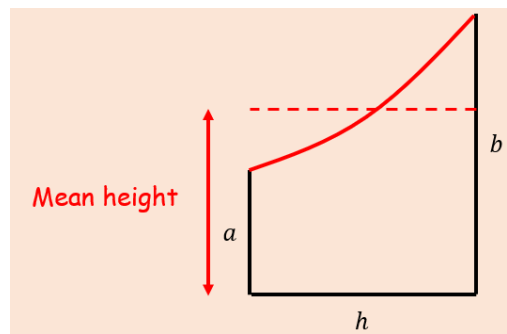
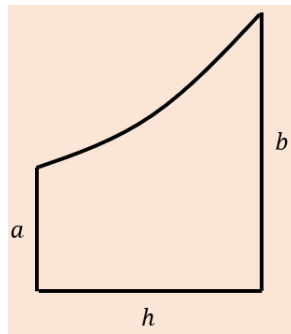
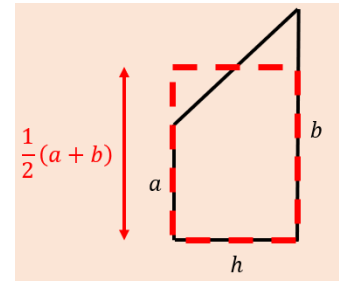
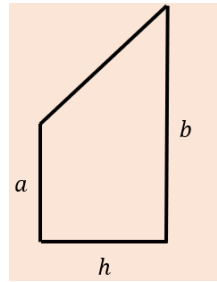


3B Mean Value of a Function



1. Find the mean value of $f(x) = \frac{4}{\sqrt{2+3x}}$ in the interval $[2,6]$.

2. Given that $f(x) = \frac{4}{1+e^x}$

a) Show that the mean value of $f(x)$ on the interval $[\ln 2, \ln 6]$ is

$$\frac{4\ln \frac{9}{7}}{\ln 3}$$

b) Use your answer to part a) to find the mean value of $f(x) + 4$ over the interval $[\ln 2, \ln 6]$

c) Use geometric considerations to write down the mean value of $y = -f(x)$ over the interval $[\ln 2, \ln 6]$

In General:

Vertical Transformations:

Horizontal Transformations: