

H3.3-16 Derive Fourier coefficient formulas  
for Fourier series on  $a \leq x \leq b$ .

Hint:  $y = \frac{a+b}{2} + \frac{b-a}{2} \frac{x}{L}$



Solve for  $x$  in terms of  $y$

$$2y = a+b + (b-a) \frac{x}{L}$$

$$\frac{2y}{b-a} = \frac{a+b}{b-a} + \frac{x}{L}$$

$$x = L \left( \frac{2y}{b-a} - \frac{a+b}{b-a} \right)$$