

(1) [7 points] Let  $f(x) = 3 + 4x - x^2$ . Evaluate and simplify the difference quotient

$$\frac{f(4+h) - f(4)}{h}$$

(2) [8 points] An open rectangular box has a volume of  $5 \text{ m}^3$  and a square base of side length  $x$ . Express the surface area  $S$  of the box as a function of  $x$ .