

Name _____ Student ID _____

1. The revenue $R(x)$ (in thousands of bahts) a company receives from the sale of x thousand units is given by $R(x) = 5x - x^2$. The sales level x is in turn a function $f(b)$ of the number b of bahts spent on advertising, where $f(b) = 6\left[1 - \frac{200}{b+200}\right]$.

(a) In what range of sales level the company should make in order to have positive revenue.

(2 marks)

(b) Express the revenue as a function of the amount spent on advertising, *i.e.*, find R as a function of b .

(1 mark)

(c) Find $\lim_{b \rightarrow \infty} f(b)$

(1 mark)

(d) The manager of advertising team suggests others in the board of the company that the more money spent on advertising would result in the higher sales level, comment on the manager's suggestion.

(1 mark)