



# B.E. International Program

Faculty of Economics, Thammasat University



---

## EE 320 Introductory Mathematical Economics

Semester 2/2013

### Practice Problem 2

1. Find the domain of the following functions

a)  $f(x) = \frac{1}{2x+3}$

b)  $g(x) = \sqrt{x^2 - 16}$

c)  $y = e^{x+4}$

d)  $y = \ln x - 4, x > 0$

2. Graph the following functions:

a)  $y = \frac{15}{x}$

b)  $y = x^2 + x - 2$

c)  $y = |x + 5|$

d)  $y = x^{-1/3}$

e)  $y = 5 - x^3$

f)  $y = x^3 - 2x^2 + x - 2$

3. Sketch the graph of the function  $g$  defined for all  $x$  by

$$g(x) = \begin{cases} |x + 3| & \text{if } x \leq 0 \\ 2x + 4 & \text{if } x > 0 \end{cases}$$

4. Which of the following equations are functions and why?

a)  $y = -3x + 7$

b)  $y^2 = x$

c)  $y = -4x^2 + 7x - 2$

d)  $x^2 + y^2 = 36$

5. Chiang & Wainwright: Exercise 2.4 Q. 8.

6. If the inflation rate is 5% per year, the equation  $P(t) = P_0(1.05)^t$  yields the predicted price  $P(t)$  after  $t$  years of an item that presently costs  $P_0$ . What is predicted price of:

a) A dozen of eggs, presently costing 60 baht, after 5 years.

b) A 3,500,000 baht house after 4 years.

7. Demand  $D$  as a function of price  $p$  is given by  $D = \frac{27}{8} - \frac{1}{5}p$ . Solve the equation for  $p$  and find the inverse function.