Brief answer to selected problems in HW15

1. Section 7.4

   Problem 8: Note that $\ln 2 < 1$. Answer (from slow to fast growth): $(\ln 2)^x$, x^2, $2^x \approx e^x$.

   Problem 10: a. True, b. True, c. False, d. True, e. True, f. True, g. True, h. False.

   Problem 24: Answer (from slow to fast growth): $(\log_2 n)^2$, $\sqrt{n}\log_2 n$, n. The slower growth rate, the more efficient.

2. Chap 7, Additional and Advanced Exercises: problems 6:

   (a): Put $x = 0$, $y = 0$ in (i).

   (b): $g'(x) = \lim_{y\to 0} \frac{g(x+y)-g(x)}{y}$.

   (c): Use method introduced in section 7.2 and $g(0) = 0$. Answer: $g(x) = \tan x$.