MATH 800, Spring 2020

Homework Set VI: due Friday, May 8th

All problems listed are from Ch.8 of the book by Greene and Krantz, third edition.

(1) page 275, problem 4

(2) page 275, problem 5

(3) page 275, problem 10

(4) page 276, problem 13

(5) Show that

$$f(z) = \prod_{n=1}^{\infty}(1 - \frac{z}{\sqrt{n}})e^{(a\frac{z}{\sqrt{n}}+b\frac{z^2}{n})}$$

for appropriately chosen a, b defines an entire function, with zeros exactly at $\{\sqrt{n}, \ n = 1, 2, \ldots\}$

Hint: Use the approach of Lemma 8.2.1, then apply Theorem 8.1.9.