

Exercise 11.1

Q. 61

$$a_1 = 2^{1/2}, a_2 = 2^{3/4}, a_3 = 2^{7/8}, \dots, \text{ so } a_n = 2^{(2^n - 1)/2^n} = 2^{1 - (1/2^n)}. \quad \lim_{n \rightarrow \infty} a_n = \lim_{n \rightarrow \infty} 2^{1 - (1/2^n)} = 2^1 = 2.$$