

Problem Set 23

Determine if the following sequences converge. If they do, compute its limit.

1) $a_n = \sqrt{n}$

2) $b_n = \frac{1^{n+1}}{n}$

3) $c_n = \frac{n-1}{n}$

4) $d_n = (-1)^n$

$$5) e_n = \frac{\sin n\pi}{n}$$

$$6) f_{n+2} = f_{n+1} + f_n, f_1 = f_2 = 1$$

$$7) g_{n+1} = \frac{\ln n}{n}$$

$$8) h_{n+1} = -\frac{n}{n+1}h_n, h_1 = 1$$