SEQUENCES AND SERIES, EXAMPLES CLASS 2.

Find the limits of the following sequences:

$$a_n = 1 + \frac{1}{n};$$

$$b_n = \frac{3n^2 + 1}{n^2 + 2};$$

$$c_n = \frac{\sqrt{n^4 + 1}}{3n^2 + 1};$$

$$d_n = \frac{n^2 - 3}{\sqrt{n^5 + 7}};$$

$$e_n = \frac{2^n + 1}{5^n - 2};$$

$$f_n = \sqrt{\frac{3^n + 2^n}{3^{n+1} - 2^n + 1}};$$

$$g_n = \frac{\cos^{10}(\ln^{10}(n^{10}))}{n};$$

$$h_n = \frac{(-1)^n \sin^5(2n)}{1 + n^2}.$$