

Étudier la monotonie des suites (U_n) définies par :

a. $U_n = 1 + \left(\frac{1}{3}\right)^n, n \in \mathbb{N};$

b. $U_n = 2^n - n, n \in \mathbb{N};$

c. $U_n = 1 + \frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n}, n \in \mathbb{N}^*;$

d. $U_n = n \times 2^n, n \in \mathbb{N}^*;$

e. $U_n = 1 \times \frac{1}{2} \times \frac{1}{3} \times \dots \times \frac{1}{n}, n \in \mathbb{N}^*;$

f. $U_n = \frac{3^n \sqrt{n}}{5^n}, n \in \mathbb{N}^*;$

g. $U_n = 2023 \times 1,03^n, n \in \mathbb{N}.$