Question 2.

All rank is ordered from lowest growth to highest

a)

$$1, \quad \log n, \quad 4^{\lg n}, \quad \lg n!, \quad e^n, \quad 2^{2^n}$$

b)

$$\sqrt{\lg(n)}, \quad (\lg n)!, \quad n \cdot 2^n, \quad (n+1)!$$

c) $\quad \ln \ln n, \quad 2^{\sqrt{2 \lg n}}, \quad n^2, \quad \left(\frac{3}{2}\right)^n$