... 2.28. (2)

f) $h[n] = (-\frac{1}{2})^n u[n] + (1.01)^n u[1-n]$

$h[-1] = (-\frac{1}{2})^{-1} \cdot 0 + (1.01)^{-1} u[1+1] = \frac{1}{1.01} \neq 0 \Rightarrow \boxed{\text{not causal}}$

$\sum_{k=-\infty}^{\infty} |h[k]| \leq \sum_{k=0}^{\infty} |(-\frac{1}{2})^k| + \sum_{k=-\infty}^{1} |(1.01)^k| = \frac{1}{1+\frac{1}{2}} + 1.01 + \sum_{k=0}^{\infty} (1.01)^{-k} = \frac{2}{3} + \frac{101}{100} + \frac{1}{1-\frac{100}{101}} =$

$= \frac{301}{100} + 101 = 104.01 < \infty \Rightarrow \boxed{\text{stable}}$

g) $h[n] = n(\frac{1}{3})^n u[n-1]$

$h[n] = 0 \ \forall \ n < 1 \Rightarrow h[n] = 0 \ \forall \ n < 0 \Rightarrow \boxed{\text{causal}}$

$\cancel{\sum_{k=-\infty}^{\infty} |h[k]| = \sum_{k=1}^{\infty} |k(\frac{1}{3})^k| = \frac{\frac{1}{3}}{(1-\frac{1}{3})^2} = \frac{1}{3 \cdot \frac{2^2}{3^2}} = \frac{3}{4} < \infty \Rightarrow \boxed{\text{stable}}}$

$\sum_{k=-\infty}^{\infty} |h[k]| = \sum_{k=-\infty}^{\infty} |k(\frac{1}{3})^k| u[n-1] = \sum_{k=+1}^{\infty} n(\frac{1}{3})^k = \frac{\frac{1}{3}}{(1-\frac{1}{3})^2} = \frac{1}{3 \cdot \frac{2^2}{3^2}} = \frac{3}{4} < \infty \Rightarrow \boxed{\text{stable}}$