Rocky Evdenchat log 4800 99

1. $\log(x^{\log x} \cdot x^2) + 1 = 1$

$-1 \quad -1$

$\log(x^{\log x} \cdot x^2) = 0$

$\log(x^{\log x + 2}) = 0$ Same base

$\log(x+2) \cdot \log(x) = 0$

$\log(x)\log(x) + 2\log(x) = 0$

$\log(x)^2 + 2\log(x) = 0$ factor

$\log(x) \cdot \log(x+2) = 0$

$\log(x) = 0$, $\log_{10}(x) + 2 = 0$

$\boxed{x = 0, \; x = 1/100}$

2. A. $\lim_{t \to \infty} \frac{\log(2t)}{t^2}$ L'hopital

$\lim_{t \to \infty} \left(\frac{\frac{1}{\ln(10)t}}{2t} \right)$

$\lim_{t \to \infty} \left(\frac{1}{2\ln(10)t^2} \right)$

$\frac{1}{2\ln(10)} \lim_{t \to \infty} \left(\frac{1}{t^2}\right)$ $\frac{1}{6}$

$\frac{1}{2\ln(10)} \cdot \frac{1}{\infty} = \boxed{0}$

2.b $\lim_{n\to\infty} \frac{2^n}{\frac{n(n+1)}{2}}$ L'hopital

$\lim \frac{\ln(2)\cdot 2^n}{n+\frac{1}{2}}$: $\lim \frac{\ln 2 \cdot 2^n}{\frac{2n+1}{2}}$

$\lim \frac{\ln^2 \cdot 2^{n+1}}{2n+1}$

$\lim \frac{\ln(2)^2 \cdot 2^{n+1}}{2}$ L'hop.tal

$\lim_{n\to\infty} [\ln(2)^2 \cdot 2n] = \boxed{\infty}$

5. A 333 | 30303 = 00091

-2997

393

-333

0

A div B = 91
A mod B = 0

B. A = -765432 / B = 38271

38271 | -765432 = -0000020

-765420

12

A div B = -20 R -12
A mod B = -12