

4.6
L2

$$n=k+1 \dots$$
$$\frac{1}{1!} + \frac{1}{2!} + \dots + \frac{1}{k!} + \frac{1}{(k+1)!} \stackrel{?}{\leq} 2 - \frac{1}{k+1}$$

$$\cancel{2} - \frac{1}{k} + \frac{1}{(k+1)!} \stackrel{?}{\leq} \cancel{2} - \frac{1}{k+1}$$

$$\frac{1}{k+1} - \frac{1}{k} \stackrel{?}{\leq} -\frac{1}{(k+1)!}$$

$$\frac{k-(k+1)}{k(k+1)} \stackrel{?}{\leq} -\frac{1}{(k+1)!}$$

$$\frac{-1}{k(k+1)} \stackrel{?}{\leq} -\frac{1}{(k+1)!}$$

$$(k+1)! \geq k(k+1)$$