

Useful Tricks for Fractions:

Get a smaller fraction by

- (1) making the top smaller
 - (2) making the bottom larger
- and use to show divergence.

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- and use to show convergence.

Some Extra Tricks

for all x

$$0 \leq \sin^2(x) \leq 1$$

$$0 \leq \cos^2(x) \leq 1$$

for all $x \geq 0$

$$0 \leq e^{-x} \leq 1$$

$$0 \leq \tan^{-1}(x) \leq \frac{\pi}{2}$$