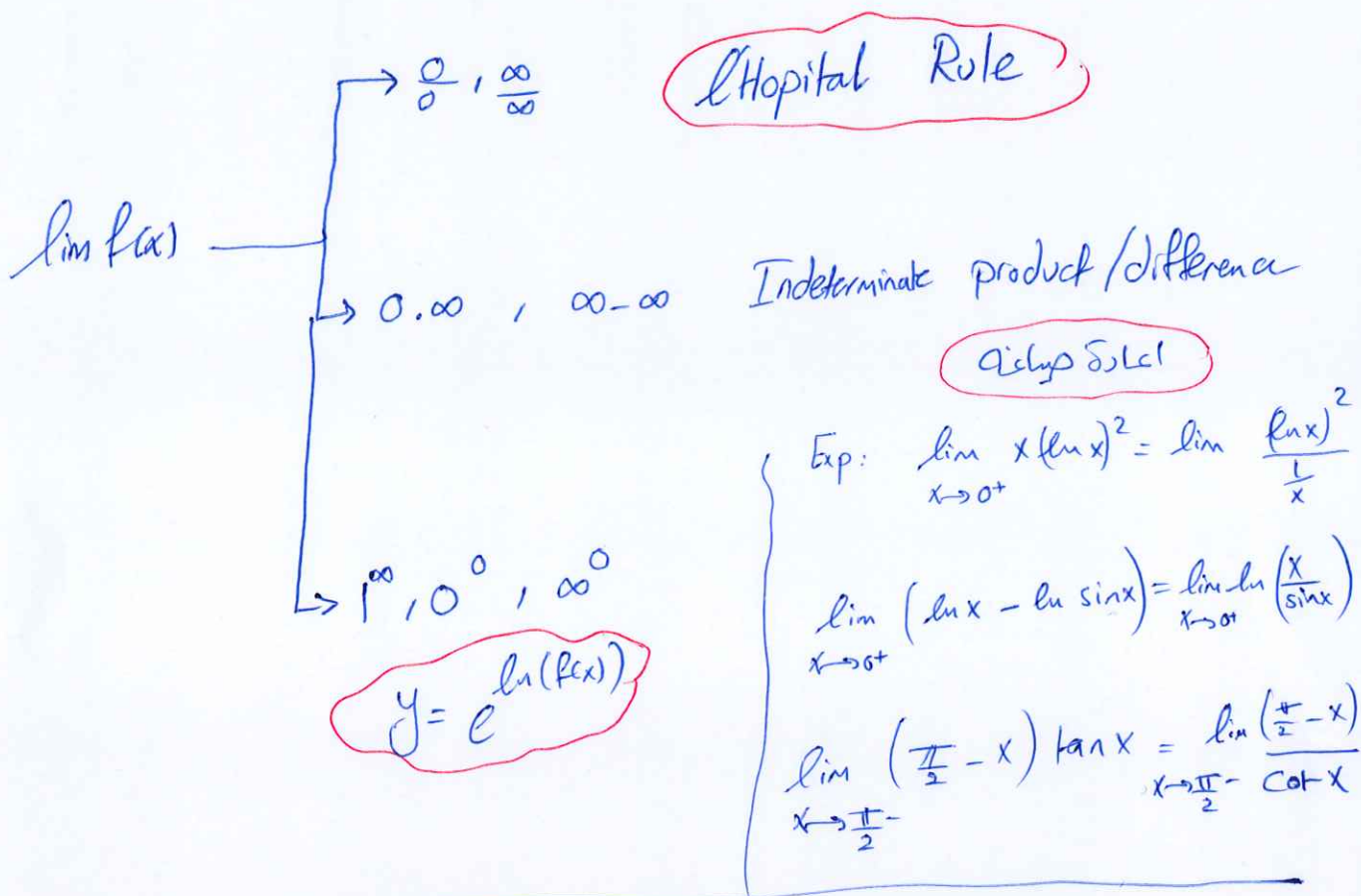


7.5

Note:Indeterminate Form

There are seven indeterminate forms that include $0, 1, \infty$



7.6

Inverse Trigonometric FunctionNote

Important properties of Inverse Trig.

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$$\sin^{-1}(x) + \cos^{-1}(x) = \frac{\pi}{2}, \quad |x| \leq 1$$

$$\tan^{-1}(x) + \cot^{-1}(x) = \frac{\pi}{2}, \quad \forall x$$

$$\sec^{-1}(x) + \csc^{-1}(x) = \frac{\pi}{2}, \quad |x| \geq 1$$

$$\sec^{-1}(x) = \cos^{-1}\left(\frac{1}{x}\right), \quad x \geq 1$$

$$\csc^{-1}(x) = \sin^{-1}\left(\frac{1}{x}\right), \quad x \geq 1$$

$$\cot^{-1}(x) = \tan^{-1}\left(\frac{1}{x}\right), \quad x > 0$$

$$\sin^{-1}(-x) = -\sin^{-1}(x)$$

$$\tan^{-1}(-x) = -\tan^{-1}(x)$$

$$\csc^{-1}(-x) = -\csc^{-1}(x)$$

$$\cos^{-1}(-x) = \pi - \cos^{-1}(x)$$

$$\sec^{-1}(-x) = \pi - \sec^{-1}(x)$$

$$\cot^{-1}(-x) = \pi - \cot^{-1}(x)$$

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