

$$\text{HOP} \rightarrow \frac{12-1}{12-1} = \frac{1}{1}$$

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$$\lim_{x \rightarrow 0} \frac{(x-1) - (x+1)}{x} = \frac{1-x-1-x-1}{x} = \frac{-4x-1}{x} = -4 - \frac{1}{x}$$

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$$\lim_{x \rightarrow 4} \frac{x-4}{\sqrt{x}-2} \rightarrow \frac{(\sqrt{x}-2)(\sqrt{x}+2)}{\sqrt{x}-2} = \sqrt{x}+2 = 4$$

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$$\text{HOP} \rightarrow \frac{1-\sqrt{x}}{\sqrt{x}-1} = \frac{1-\sqrt{x} \times \frac{1}{\sqrt{x}}}{1-1} = \frac{1}{\sqrt{x}} = \frac{1}{1}$$

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$$\lim_{x \rightarrow 0} \frac{1-\sqrt{x}}{1-\sqrt{x+1}} \times \frac{1+\sqrt{x}}{1+\sqrt{x}} \times \frac{1+\sqrt{x+1}}{1+\sqrt{x+1}} = \frac{1-x}{1-x+1} \times \frac{1+\sqrt{x}}{1+\sqrt{x+1}} = -1$$

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