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$$\lim_{n \rightarrow 1} \frac{F_n^r - Vn + K}{\Delta n^r - \Lambda n + K} = \frac{0}{0} \text{ form } \lim_{n \rightarrow 1} \frac{(n-1)(Kn-K)}{(n-1)(\Delta n - K)} = \lim_{n \rightarrow 1} \frac{Kn-K}{\Delta n - K} = \frac{1}{r}$$

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$$\frac{F_n^r - Vn + K}{-(F_n^r - F_n)} \Big|_{n=1} \quad \frac{\Delta n^r - \Lambda n + K}{-(\Delta n^r - \Delta n)} \Big|_{n=1}$$

$$\frac{-K_n + K}{-(-K_n + K)} \quad \frac{-K_n + K}{-(-K_n + K)}$$

$$\frac{0}{0}$$

$$\lim_{n \rightarrow 0} \frac{|K_n - 1| - |K_{n+1}|}{n} = \frac{0}{0} \text{ form } \lim_{n \rightarrow 0} \frac{1 - K_n - K_{n+1}}{n} = \lim_{n \rightarrow 0} \frac{-r}{1} = -r$$

5 -r

$$\lim_{n \rightarrow K} \frac{n - K}{\sqrt{n} - r} = \frac{0}{0} \text{ form } \lim_{n \rightarrow K} \frac{(\sqrt{n} - r)(\sqrt{n} + r)}{\sqrt{n} - r} = \sqrt{n} + r = K$$

5 -K

$$\lim_{n \rightarrow r} \frac{n - \sqrt{Kn}}{K_n^r - n - r} = \frac{0}{0} \text{ form } \lim_{n \rightarrow r} \frac{n - \sqrt{Kn}}{(n-r)(Kn+K)} \times \frac{n + \sqrt{Kn}}{n + \sqrt{Kn}} = \lim_{n \rightarrow r} \frac{n^2 - r^2}{(n-r)(Kn+K)(n + \sqrt{Kn})}$$

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$$\lim_{n \rightarrow r} \frac{n(n-r)}{(n-r)(Kn+K)(n + \sqrt{Kn})} = \frac{r}{r \times K} = \frac{1}{K}$$

$$\lim_{n \rightarrow 1} \frac{1 - \sqrt{a}}{r - \sqrt{a-n}} = \frac{0}{0} \text{ form } \lim_{n \rightarrow 1} \frac{1 - \sqrt{a}}{r - \sqrt{a-n}} \times \frac{r + \sqrt{a-n}}{r + \sqrt{a-n}} = \lim_{n \rightarrow 1} \frac{(1 - \sqrt{a})(r + \sqrt{a-n})}{r - a + n}$$

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$$\lim_{n \rightarrow 1} \frac{(1 - \sqrt{a})(r + \sqrt{a-n})}{n-1} = \lim_{n \rightarrow 1} \frac{-(\sqrt{a}-1)(r + \sqrt{a-n})}{(\sqrt{a}-1)(\sqrt{a}+1)} = \lim_{n \rightarrow 1} \frac{-(r + \sqrt{a-n})}{\sqrt{a}+1} = \frac{-r}{r} = -r$$

$$\lim_{n \rightarrow r} \frac{\sqrt{Kn+K} - K}{\sqrt{\Delta n + V} - K} = \frac{0}{0} \text{ form } \frac{\sqrt{Kn+K} - K}{\sqrt{\Delta n + V} - K} \times \frac{\sqrt{Kn+K} + K}{\sqrt{Kn+K} + K} = \frac{K}{\Delta} \times \frac{rV}{\Lambda} = \frac{\Lambda r}{K \Delta}$$

5 -r

$$\lim_{n \rightarrow 1} \frac{\sqrt{Kn} + \sqrt{a} - r}{\sqrt{a} - 1} = \frac{0}{0} \text{ form } \frac{\sqrt{Kn} + \sqrt{a} - r}{\sqrt{a} - 1} \times \frac{\sqrt{Kn} + \sqrt{a} + r}{\sqrt{Kn} + \sqrt{a} + r} \times \frac{\sqrt{a^r} + \sqrt{a} + 1}{\sqrt{a^r} + \sqrt{a} + 1}$$

5 -r

$$\lim_{n \rightarrow 1} \frac{(\sqrt{Kn} + \sqrt{a} - r)}{n-1} \times \frac{K}{K} = \lim_{n \rightarrow 1} \frac{(\sqrt{a}-1)(\sqrt{Kn}+K)K}{(\sqrt{a}-1)(\sqrt{a}+1) \times K} = \frac{V \times K}{r \times K} = \frac{V}{r}$$

$$\lim_{n \rightarrow \pi} \frac{1 + \cos^n n}{\sin^n n} = \frac{0}{0} \Rightarrow \lim_{n \rightarrow \pi} \frac{(1 + \cos n)(1 + \cos^n n - \cos n)}{(1 - \cos n)(1 + \cos n)} = \frac{1+1+1}{1} = \frac{3}{1} \quad -1$$

$$\lim_{n \rightarrow \frac{\pi}{2}} \frac{1 - \tan n}{\sin n - \cos n} = \frac{0}{0} \Rightarrow \lim_{n \rightarrow \frac{\pi}{2}} \frac{1 - \frac{\sin n}{\cos n}}{\sin n - \cos n} = \lim_{n \rightarrow \frac{\pi}{2}} \frac{\frac{\cos n - \sin n}{\cos n}}{\sin n - \cos n} = \lim_{n \rightarrow \frac{\pi}{2}} \frac{\cos n - \sin n}{\cos n(\sin n - \cos n)} \quad -9$$

$$\lim_{n \rightarrow \frac{\pi}{2}} \frac{-(\sin n - \cos n)}{\cos n(\sin n - \cos n)} = \lim_{n \rightarrow \frac{\pi}{2}} \frac{-1}{\cos n} = \frac{-1}{\frac{0}{1}} = \frac{-1}{0} \times \frac{\sqrt{1}}{\sqrt{1}} = \frac{-1 \cdot \sqrt{1}}{0} = -\sqrt{1}$$

$$\lim_{n \rightarrow \frac{\pi}{4}} \frac{\tan^n n - 1}{\cos^n n} = \frac{0}{0} \Rightarrow \lim_{n \rightarrow \frac{\pi}{4}} \frac{\tan^n n - 1}{\frac{1 - \tan^n n}{1 + \tan^n n}} = \lim_{n \rightarrow \frac{\pi}{4}} \frac{(\tan^n n - 1)(\tan^n n + 1)}{1 - \tan^n n} = \quad -10$$

$$\lim_{n \rightarrow \frac{\pi}{4}} \frac{-(1 - \tan^n n)(1 + \tan^n n)}{1 - \tan^n n} = \lim_{n \rightarrow \frac{\pi}{4}} -1 - \tan^n n = -1 - 1 = -2$$