

$$\lim_{x \rightarrow -\infty} \frac{2x-2}{x^2+ax+b} = -\infty$$

$$\frac{-1}{0+} = -\infty$$

$$(x-2)^2 = x^2 - 4x + 4$$

$$a = -4$$

$$b = 4$$

$$a+b = 0$$

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$$(x - \sqrt[3]{4})^2 = x^2 - 2\sqrt[3]{4}x + \sqrt[3]{16}$$

$$\frac{\sqrt[3]{16}}{-2\sqrt[3]{4}} = \frac{\sqrt[3]{4}}{-2\sqrt[3]{4}} = \left[\frac{-1}{2} \right] = -\frac{1}{2}$$

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$$\frac{-1+a}{1+a+a} = -\infty$$

$$\frac{-1+a}{1+2a} = -\infty$$

$$a = -\frac{1}{2} \rightarrow \frac{1}{2}$$

$$\left[-\frac{1}{2} \right] = -\frac{1}{2}$$

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$$x > -\frac{1}{2}$$

$$\frac{1}{x} < -2 \rightarrow \frac{1}{x^2} > 4 \rightarrow \frac{-1}{x^2} < -4 \rightarrow \frac{-2}{x^2} < -8$$

$$\frac{14x - (-9)}{24x + 12} = \frac{14+9}{0+} = \frac{23}{0+} > 12$$

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$$\frac{x^2-4}{x^2-1} = \frac{x+2}{x^2+2x+1} = \frac{4}{12} \rightarrow \frac{1}{3}$$

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$$\frac{(x+r)(x+1)(\sqrt{x^2+1} - \sqrt{x})}{4(r+\sqrt{x})(\sqrt{x^2+1} - \sqrt{x})}$$

$$= \frac{(x+r)(x+1)r}{4(1+x)} = r(-1) = -1r$$

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$$\frac{\sqrt{r+\sqrt{x}} - \sqrt{r-x}}{\sqrt{1-\cos x}} = \frac{\sqrt{r+\sqrt{x}} - \sqrt{r-x}}{\sqrt{1+\frac{ax}{r}}} \times \frac{\sqrt{r+\sqrt{x}} + \sqrt{r-x}}{\sqrt{r+\sqrt{x}} - \sqrt{r-x}}$$

$$\frac{r+\sqrt{x}-r+x}{\sqrt{r}\sqrt{x}} = \frac{rx}{r\sqrt{x}\sqrt{x}} = \sqrt{x} \quad rx-1 = -1$$

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$$\cos^2 \theta = 1 - \frac{ax^r}{r}$$

$$1 - \frac{ax^r}{r} = r$$

$$\frac{a}{k} = \frac{r}{-1} = -r$$

$$\frac{-a}{\frac{r}{k}} = r \quad (k = -1)$$

$$\frac{-a}{-1} = r \quad (a = r)$$

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$$\frac{r\sqrt{x-a} + r(\sqrt{x}-\sqrt{a})}{\sqrt{x-a}\sqrt{x+a}} = \frac{r}{\sqrt{a}} + \frac{r(\sqrt{x}-\sqrt{a})}{\sqrt{x-a}\sqrt{x+a}} = \frac{r}{\sqrt{a}} \times \frac{\sqrt{a}}{\sqrt{a}} = \frac{r\sqrt{a}}{\sqrt{a}} = \frac{r\sqrt{a}}{\sqrt{a}}$$

$$\frac{r}{\sqrt{4a}} + \frac{r(\sqrt{x}-\sqrt{a})}{\sqrt{x-a}\sqrt{x+a}} \times \frac{\sqrt{x}-\sqrt{a}}{r\sqrt{a}} = \frac{r(x-a)}{\sqrt{x-a}\sqrt{x+a}} \times \frac{1}{r\sqrt{a}}$$

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$$\lim_{x \rightarrow 1} \frac{1-K[x]}{x^r-1} \quad \begin{matrix} -1^+ \\ -1^- \end{matrix} \quad \begin{matrix} 1+K < 0 \\ 1^+ - 1 \\ 1+K > 0 \\ 1^- - 1 \end{matrix}$$

$$K < -1 \quad \frac{-1}{r} < K < -1$$

$$1+rk > 0 \quad K > -\frac{1}{r}$$

$$-\frac{\pi}{r} < K\pi < -\pi \rightarrow \cos K\pi \quad \ominus \quad \text{all } \ominus \quad \text{Polaris}$$

$$\ominus \rightarrow \text{Polaris}$$

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