

$$\lim_{x \rightarrow 1} \frac{4x^2 - 5x + 3}{x^2 - 1} = \frac{0}{0} \Rightarrow \frac{(x-1)(4x-3)}{(x-1)(x+1)} = \frac{1}{2}$$

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✓ حد دارد

$$\lim_{x \rightarrow 0} \frac{|3x-1| - |3x+1|}{x} = \frac{0}{0} \Rightarrow \frac{-3x+1 - 3x-1}{x} = \frac{-6x}{x} = -6$$

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$$\lim_{x \rightarrow 4} \frac{x-4}{\sqrt{x}-2} = \frac{0}{0} \Rightarrow \frac{(\sqrt{x}-2)(\sqrt{x}+2)}{(\sqrt{x}-2)} = \sqrt{x}+2 = 4$$

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✓ حد دارد

$$\lim_{x \rightarrow 2} \frac{x - \sqrt{2x}}{2x^2 - x - 4} \times \frac{x - \sqrt{2x}}{x} = \frac{x^2 - 2x}{(x-2)(2x+4)x} = \frac{2}{2 \cdot 8} = \frac{1}{8}$$

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✓ حد دارد

$$\lim_{x \rightarrow 1} \frac{1 - \sqrt{x}}{1 - \sqrt{2-x}} \times \frac{1 + \sqrt{x}}{1 + \sqrt{x}} \times \frac{1 + \sqrt{2-x}}{1 + \sqrt{2-x}} = \frac{1-x}{1+x} \times \frac{1}{1} = -\frac{1}{2}$$

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✓ حد دارد

$$\lim_{x \rightarrow f} \frac{\sqrt{1+x} - 1}{\sqrt{1+x} + 1} \times \frac{\cos x}{\cos x} \times \frac{f}{f} = \frac{f(x-f)}{f(x-f)} \times \frac{f}{f} = \frac{11}{f}$$

(5)

f

✓, b, 10

$$\lim_{x \rightarrow 1} \frac{\sqrt{4x+7} - 1}{\sqrt{2x+1}} \times \frac{\cos x}{\cos x} \times \frac{f}{f} = \frac{f(x+\sqrt{x}) - f}{x-1} \times \frac{f}{f} = \frac{4x^2 - 2x + 14}{x-1} \times \frac{f}{f} \times \frac{1}{f}$$

$$\rightarrow \frac{(x-1)(4x-14)}{(x-1)} \times \frac{f}{f} = \frac{-10x^2}{-1} = \frac{11}{f}$$

(5)

y

✓, b, 10

$$\lim_{x \rightarrow \pi} \frac{1 + \cos^2 x}{\sin^2 x} = \frac{(1 + \cos^2 x)(1 + \cos^2 x - \cos^2 x)}{\sin^2 x} = \frac{1 + (-1)^2 - (-1)}{1 - (-1)} = \frac{f}{f}$$

$1 - \cos^2 x \Rightarrow (1 - \cos x)(1 + \cos x)$

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✓, b, 10

$$\lim_{x \rightarrow \frac{\pi}{2}} \frac{1 - \tan x}{\sin x - \cos x} = \frac{1 - \frac{\sin x}{\cos x}}{\sin x - \cos x} = \frac{\cos x - \sin x}{\sin x - \cos x} = -\frac{1}{\cos x} \Rightarrow -\frac{1}{\frac{\sqrt{f}}{f}} \Rightarrow -\frac{f}{\sqrt{f}}$$

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✓, b, 10

$$\lim_{x \rightarrow \frac{\pi}{2}} \frac{\tan^2 x - 1}{\cos^2 x} = \frac{\sin^2 x}{\cos^2 x} - 1 = \frac{\sin^2 x - \cos^2 x}{\cos^2 x - \sin^2 x} = \frac{\cos^2 x}{\cos^2 x - \sin^2 x} = -\frac{1}{\cos^2 x} = -\frac{1}{\left(\frac{\sqrt{f}}{f}\right)^2} = \frac{-f}{f}$$

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✓, b, 10