Calcolare i seguenti limiti, scrivendo la risposta mediante un'unica frazione:

$$\lim_{x\to\frac{\sqrt{2}}{2}} \frac{\pi \text{arcsen} x - \pi^2}{x\sqrt{2}} + \left(x - \frac{\sqrt{2}}{2}\right)\frac{|x-8|}{x-8} = -\frac{3\pi^2}{4}$$

$$\lim_{x\to 3} \frac{\log(x+3)}{x-1} = \frac{\log 6}{2}$$

$$\lim_{x\to\frac{\pi}{4}} (\text{tg} x)\text{sen}^2 x = \frac{1}{2}$$

$$\lim_{x\to\frac{\pi}{4}} \text{sen} x + \frac{\cos x}{2} = \frac{\sqrt{2}}{2} + \frac{\sqrt{2}}{4} = \frac{3\sqrt{2}}{4}$$

$$\lim_{x\to 3} \frac{1}{x^2+2^x} = \frac{1}{17}$$

$$\lim_{x\to 1} \frac{1}{\arccos x + 2\text{arcsen} x} = \frac{1}{\pi}$$

$$\lim_{x\to 3} \frac{\log(x-2)+\log(x+2)}{x+2} = \frac{\log 5}{5}$$

$$\lim_{x\to\frac{\pi}{4}} \frac{\text{tg} x}{3} + \frac{1}{\text{sen} x} + \left(x - \frac{\pi}{4}\right)\text{sen}(x^8) = \frac{3\sqrt{2}+1}{3}$$

$$\lim_{x\to 2} \frac{x^4-2}{4^x-5x} = \frac{7}{3}$$

$$\lim_{x\to -1} \frac{\pi}{(\text{arcsen} x)(\arccos x)} + \sqrt{x+1}\text{arctg}\left(\frac{1}{\log(x+2)}\right) = -\frac{2}{\pi}$$

$$\lim_{x\to 1} \frac{3}{5}\left(1+\log\left(\frac{4\text{arctg} x}{\pi}\right)\right) = \frac{3}{5}$$

$$\lim_{x\to 0} x^2 + \text{sen}(1-\log(e+x)) + \frac{1+x}{2} = \frac{1}{2}$$

$$\lim_{x\to\frac{\pi}{6}} \frac{\text{sen} x}{5} + \sqrt{3}\cos x = \frac{8}{5}$$

$$\lim_{x\to 0} \frac{e^x+2}{x+e} = \frac{3}{e}$$

$$\lim_{x\to\frac{1}{2}} \frac{\text{arcsen} x}{\arccos x} = \frac{1}{2}$$

$$\lim_{x\to 2} \frac{1}{2}\text{arcsen}\left(\log_2 x\right) = \frac{\pi}{4}$$

$$\lim_{x\to\frac{\pi}{3}} \frac{1}{2\cos x} + \frac{\mathrm{tg}x}{3} = \frac{1+\sqrt{3}}{\sqrt{3}}$$

$$\lim_{x\to 3} \left(\frac{1}{3}\right)^x - \frac{x}{3} = -\frac{26}{27}$$

$$\lim_{x\to\frac{\sqrt{3}}{2}} 6\arccos x + 2\mathrm{arcsen}x = \frac{5\pi}{3}$$

$$\lim_{x\to 1} \frac{\log(1+e^x)}{e+1} = \frac{\log(1+e)}{1+e}$$

$$\lim_{x\to\frac{\pi}{3}} \sqrt{3}\mathrm{sen}x - \frac{\cos x}{\sqrt{3}} = \frac{3\sqrt{3}-1}{2\sqrt{3}}$$

$$\lim_{x\to 2} \frac{1+e^x}{ex} = \frac{1+e^2}{2e}$$

$$\lim_{x\to 1} \frac{2e^x-1}{2e^x+1} = \frac{2e-1}{2e+1}$$

$$\lim_{x\to\sqrt{3}} \frac{\mathrm{arctg}\left(\frac{1}{x}\right)}{\mathrm{arctg}x} = \frac{1}{2}$$

$$\lim_{x\to 1} \frac{x+2}{\left(\frac{1}{3}\right)^x+1} = \frac{9}{4}$$

$$\lim_{x\to\frac{\sqrt{3}}{2}} 3\mathrm{arcsen}x + \mathrm{arctg}(2x) = \frac{4\pi}{3}$$

$$\lim_{x\to\frac{\pi}{6}} \frac{\cos x}{2} + \frac{1}{\mathrm{tg}x} = \frac{5\sqrt{3}}{4}$$

$$\lim_{x\to 3} \frac{\left(\frac{1}{2}\right)^x-1}{x+4} = -\frac{1}{8}$$

$$\lim_{x\to\frac{\sqrt{2}}{2}} \frac{\mathrm{arcsen}x}{\pi} + \frac{\pi}{\arccos x} = \frac{17}{4}$$

$$\lim_{x\to 3} \frac{1}{x+\log_4(x+1)} = \frac{1}{4}$$

$$\lim_{x\to\frac{\pi}{3}} \frac{\mathrm{tg}x}{3} + \frac{1}{2\mathrm{sen}x} = \frac{2}{\sqrt{3}}$$

$$\lim_{x\to 5} \frac{1^x+x}{5x+1} = \frac{3}{13}$$

$$\lim_{x\to\frac{1}{\sqrt{3}}} \frac{\text{arctg}x}{\pi} + \frac{1}{x} = \frac{6\sqrt{3}+1}{6}$$

$$\lim_{x\to 2} \frac{1}{\pi} \arccos\left(\frac{\sqrt{2}}{x}\right) = \frac{1}{4}$$

$$\lim_{x\to\frac{\pi}{4}} \sqrt{2}\text{sen}x - \frac{\cos x}{\sqrt{2}} = \frac{1}{2}$$

$$\lim_{x\to 3} \frac{x+1}{2^x+2} = \frac{2}{5}$$

$$\lim_{x\to 1} \text{arcsen}x + \arccos x + \text{arctg}x = \frac{3\pi}{4}$$

$$\lim_{x\to 1} \frac{e^{4\text{arctg}x} - e^x}{2x} = \frac{e^\pi - e}{2}$$

$$\lim_{x\to\frac{\pi}{6}} \frac{1}{\sqrt{3}\text{tg}x} - \text{sen}x = \frac{1}{2}$$

$$\lim_{x\to 2} \frac{x^3}{2\log(3x)} = \frac{4}{\log 6}$$

$$\lim_{x\to\frac{\pi}{6}} \frac{\cos x}{\sqrt{3}} + \text{tg}x = \frac{\sqrt{3}+2}{2\sqrt{3}}$$

$$\lim_{x\to 1} \frac{e^{x+1}}{x^e+e} = \frac{e^2}{1+e}$$

$$\lim_{x\to\frac{1}{2}} 3\arccos x - 2\text{arcsen}x = \frac{2\pi}{3}$$

$$\lim_{x\to 1} 1 + \text{arctg}\left(1+\log x\right) = \frac{4+\pi}{4}$$