

Esempio 6.3.3. Studiare e tracciare il grafico delle seguenti funzioni:

$$f(x) = \sqrt{x|\log x|} \quad (6.3.10)$$

$$f(x) = \log \frac{3x^2 + 1}{x^2 + |x|(x+1)} \quad (6.3.11)$$

$$f(x) = \sqrt{\frac{\log|x| - 1}{\log|x| + 1}} \quad (6.3.12)$$

$$f(x) = e^x \sqrt[3]{x^2(|x-2|-1)} \quad (6.3.13)$$

$$f(x) = \arctan\left(\sqrt{x^2 + x} - x\right) \quad (6.3.14)$$

$$f(x) = \frac{\sqrt[3]{2x^3 - 6x^2}}{e^x} \quad (6.3.15)$$

$$f(x) = \log\left(\sqrt{x^2 + x} - x\right) \quad (6.3.16)$$

$$f(x) = (2x^4 + 1)(2 - \log(x^4 + x^3|x| + 1)) \quad (6.3.17)$$

$$f(x) = \log \frac{x^{12} + 1}{(x^5|x| + 1)^2} \quad (6.3.18)$$

$$f(x) = \arctan \sqrt{|2^x - 1|} \quad (6.3.19)$$

$$f(x) = \sqrt{x^2 - x|x|} \arctan \frac{x}{x-1} \sqrt{x^2 + x} - x \quad (6.3.20)$$

$$f(x) = \frac{2x+1}{x^2+1} + 2 \arctan \frac{1-x}{1+x} \quad (6.3.21)$$

$$f(x) = \arctan \frac{x-1}{1+2x} + 3x \frac{\sqrt{x^2 - 2x + 1}}{1-x} \quad (6.3.22)$$

$$f(x) = \frac{x^2 - 2x}{|x-2|} \sqrt{\frac{x}{|4-x|}} \quad (6.3.23)$$

$$f(x) = \arctan \sqrt[3]{\frac{x}{x^2 + 1}} \quad (6.3.24)$$

$$f(x) = \frac{\log x - x^2 + 1}{x} \quad (6.3.25)$$

$$f(x) = \log \frac{(x|x| + 1)^2}{x^4 + 1} \quad (6.3.26)$$

$$f(x) = \frac{x}{x - \sqrt{|x^2 - 4|}} \quad (6.3.27)$$

$$f(x) = x \log|x| - \arctan \frac{|x| + x - 2}{2} \quad (6.3.28)$$

$$f(x) = e^x \sqrt[3]{x^2(1 - |x-2|)} \quad (6.3.29)$$

$$f(x) = (2x^2 + 1)(\log(x^2 + x|x| + 1) - 2) \quad (6.3.30)$$

$$f(x) = \log \frac{(x^2 + |x|x + |x| - x)(|x| - 2|)}{2|x|(|x| - x - 1)} \quad (6.3.31)$$

$$f(x) = (x+2)e^{\frac{x^2-1}{x+2}} \quad (6.3.32)$$

$$f(x) = \log(4\cos^2 x + 8\sin x - 7) \quad (6.3.33)$$

$$f(x) = e^x \sqrt[3]{x^2(x + |x-2|)} \quad (6.3.34)$$

$$f(x) = 1 + \cos x + \sin x + \cos x \sin x \quad (6.3.35)$$

$$f(x) = e^{\sqrt[3]{\frac{x}{x^2+1}}} \quad (6.3.36)$$

$$f(x) = \log\left[\sqrt{x^2 + 3x + 2} - (x+1)\right] \quad (6.3.37)$$

$$f(x) = e^x \sqrt[3]{x^2(x - |x-2|)} \quad (6.3.38)$$

$$f(x) = e^{-x} \sqrt[3]{2x^2 - x^3} \quad (6.3.39)$$

$$f(x) = \log \frac{x^2 + |x|(x+1)}{2x^2 + 1} \quad (6.3.40)$$