

Solutions.

1. $1/6$.
2. $16/35$.
3. $3(x-1)^{4/3} \left(\frac{1}{10}(x-1)^2 + \frac{4}{7}(x-1) + 1 \right)$
4. $\frac{x^2}{2} \log \left(1 + \frac{1}{x} \right) + \frac{x}{2} - \frac{1}{2} \log(1+x)$
5. $2/5$
6. $-\log(3 + e^{-x})$.
7. $\frac{16}{3} + \frac{3}{2} \log(3)$
8. $\pi/4$
9. $\frac{1}{5} \log \left(\frac{x^5}{x^5+1} \right)$
10. $\frac{\pi}{2\sqrt{2}} + \frac{1}{\sqrt{2}} \log(1 + \sqrt{2})$
11. $\frac{\pi}{8} \log(2)$.
12. $10747/10 + 6 \log(2)$.
13. x^x .
14. $7/30$.
15. $\pi/8 - 1/4$
16. $\frac{1}{20} \log(3) - \frac{1}{30} \log 2$.
17. $\log(x) \cdot \log(\log(x)) - \log(x)$.
18. $\log(\sin(x) - \cos(x))$
19. $\log(x) - \log(x + \cos(x))$
20. $\frac{1}{\sqrt{3}} \log(2 + \sqrt{3})$.
21. $\log(2 + \sqrt{3}) - \frac{1}{2} \log(3)$.
22. $1/2$
23. $\frac{1+\sqrt{5}}{4} + \log \left(\frac{1+\sqrt{5}}{2} \right)$
24. $\frac{x}{\log(x)}$.
25. $\pi/8$.