

Solutions.

1. $1/3x^3 - 1/2x^2 + x$.
2. $x(\ln(x))^2$.
3. $\arcsin(x^2)$.
4. $1/2x^2 - x + 2\ln(x + 1)$.
5. $-\cos(x) - x + \tan(\pi/4 - x/2)$.
6. $-\coth(x)$.
7. $1/5 \tan(x)^5 + 1/3 \tan(x)^3$.
8. $2\sqrt{\sin(x)}$
9. $1/192 \sin(6x) + 3/64 \sin(4x) + 15/64 \sin(2x) + 5/16x$
 $= 1/6 \cos(x)^5 \sin(x) + 5/24 \cos(x)^3 \sin(x) + 5/16 \cos(x) \sin(x) + 5/16x$.
10. $\arctan(x)/2 + x/(2 + 2x^2)$.
11. $x(\cos(\log(x)) + \sin(\log(x)))/2$.
12. $\log(\sec(x) + \tan(x))$.
13. $1/6 \arctan(2x/3)$.
14. $-(1 + x^{-4})^{1/4}$.
15. 0.
16. $x \log(\log(x))$.
17. $-1/2 \log(2e^{-x} + 1)$.
18. $2/3 \arcsin(x^{3/2})$.
19. $\log(1 + x^2) - \log(1 - x^2)$.
20. x^x .
21. $9\pi/2$.
22. $1/100 \sin(100x)(\sin(x))^{100}$.
23. $e^{e^{x^2}}$.
24. $-5/6 + \ln(2)$.
25. $\arcsin(x) + \sqrt{1 - x^2}$.