1. $f(x) = x^2 e^{-\frac{1}{x}}$

2. $f(x) = \dfrac{\sin x}{\sqrt{x^2+1}}$

3. $f(x) = \sqrt{e^x}$

4. $f(x) = e^{x\cos(x)}$

5. $f(x) = (1-x)e^{\sqrt{x-x^2}}$

6. $f(x) = \dfrac{\sin^3(2x)}{2+\cos(5x)}$

7. $f(x) = \sin(\ln x)$

8. $f(x) = \ln(e^x + x^2)$

9. $f(x) = \dfrac{x - e^x}{e^x + 1}$

10. $f(x) = \ln\left(\dfrac{x+2}{\sqrt{9x^2-4}}\right)$

11. $f(x) = \dfrac{1}{(\cos(x))^4}$

12. $f(x) = \dfrac{1}{2^{x+1}}$

13. $f(x) = (e^{2x} - 1)^\pi$

14. $f(x) = \left(\dfrac{\sqrt{x^2+3x}}{3^x}\right)^4$

15. $f(x) = 2^{\ln x}$

16. $f(x) = \dfrac{\sqrt{\ln x}}{x}$

17. $f(x) = \ln(\ln x)$

18. $f(x) = \ln(\sqrt{x^2-1} + x)$

19. $f(x) = \dfrac{3^{x-1}\cos x}{x^x}$