1. $f(x) = 2x^4 - 3x^2 + 5x + 2$

2. $f(x) = x^{-\frac{1}{2}} + x^{\frac{1}{2}} - 6x^{\frac{1}{3}} + 3$

3. $f(x) = 3x^2 + \dfrac{1}{3}x^{-2} + x - 5$

4. $f(x) = x^2 - 3x^{\frac{7}{3}} - 5x^{-2} - 4$

5. $f(x) = x^4 - 8x^3 + 2x^2 - x + 1$

6. $f(x) = 7x^{\frac{1}{3}} - 5x^2 + 3x - 17$

7. $f(x) = 9x^{-3} + 2x^{-\frac{1}{2}} - 14$

8. $f(x) = -2x^4 + x^{-2} - 3x^{-\frac{3}{4}}$

9. $f(x) = 12x^4 + 3x^3 + 5x^{-2} - 4$

10. $f(x) = 3x^3 + 2x^{\frac{4}{3}} - x + 1$

11. $f(x) = 3x + \dfrac{5}{x^2} - \dfrac{4}{x} + 2$

12. $f(x) = 4\sqrt{x} - \dfrac{6}{\sqrt{x}} + 5x - 7$

13. $f(x) = \dfrac{12}{x} - \dfrac{1}{4x^2} + \dfrac{3}{5x^3} + 2$

14. $f(x) = \sqrt[3]{x} + \dfrac{1}{3x^4} + \dfrac{2}{5x^2} - 6$

20. $f(x) = 7x^4 - \dfrac{3}{x^2} + \dfrac{8}{\sqrt{x}} + \dfrac{2}{5}$

15. $f(x) = 4x^{-2} - 7\sqrt{x} + 8x^3 + 5$

21. $f(x) = 2\sqrt{x} + \sqrt[3]{x} - \dfrac{5}{x^4} - 8$

16. $f(x) = \sqrt{x} + 3x + \dfrac{4}{x} - \dfrac{1}{3}$

22. $f(x) = 5\sqrt[3]{x} - \dfrac{1}{4\sqrt{x}} + \dfrac{8}{\sqrt[3]{x}} + 1$

17. $f(x) = -3x^{-3} + 4x^2 + \dfrac{1}{x^2} + 7$

23. $f(x) = \dfrac{7}{5x^2} - \dfrac{1}{3x} + \dfrac{6}{\sqrt{x}} + 14$

18. $f(x) = 4x^{-3} + \dfrac{2}{\sqrt{x}} + \dfrac{5}{x^2} - 6$

24. $f(x) = -6\sqrt{x} + 3\sqrt[3]{x^2} - \dfrac{2}{x^5} - 12$

19. $f(x) = 3\sqrt[3]{x^2} - \dfrac{4}{x^5} - 6x + 2$

25. $f(x) = 2\sqrt[3]{x^2} - \sqrt{x} + \dfrac{2}{5x} + \dfrac{3}{x^2} - 1$

1. $f(x) = (x^3 + 7x^2 + 5)^5$

2. $f(x) = (x^3 - 3x)^4$

3. $f(x) = 12(2x^3 - 3)^{\frac{2}{3}}$

4. $f(x) = 6(3x^2 - 2x + 1)^{\frac{1}{2}}$

5. $f(x) = \sqrt{3x^2 + 1}$

6. $f(x) = 6\sqrt{x^4 + x^2 + 2}$

7. $f(x) = \sqrt{x^2 + 2x + 3}$

8. $f(x) = 6(2x^2 - 3x - 5)^{10}$

9. $f(x) = 7(6x^3 - 4x^2 + 2)^{-3}$

10. $f(x) = 5(2x^2 - 6x + 1)^{-7}$

11. $f(x) = 4(7x^5 - 3x + 2)^{\frac{3}{8}}$

16. $f(x) = 5\sqrt[3]{(x^2 + 2)^2}$

12. $f(x) = -3(4x^9 - 8x + 6)^{-\frac{2}{3}}$

17. $f(x) = 2\sqrt[3]{(3x + 5)^2}$

13. $f(x) = 8(4x^2 - 5x + 3x^{-1})^4$

18. $f(x) = 9(4x^2 - 2x + 1)^{-8}$

14. $f(x) = 9(x^2 + 3x - 2)^{-2}$

19. $f(x) = 12\sqrt[3]{4x^3 + 2\sqrt{x} - 5}$

15. $f(x) = 8(3x^2 + 13x - 4)^{-\frac{3}{4}}$

20. $f(x) = 8\sqrt[3]{6\sqrt{x} + 2x - 3}$

1. $f(x) = (x^4 - 3x^2 + 5)(3x^4 - x^{-2})$

2. $f(x) = (x^3 - 3x^{-2} + x)(x^{-6} + 6x - 2)$

3. $f(x) = (2x + 5)(3x^2 - 6x - 11)$

4. $f(x) = (2x^3 - 3x^2 + x^{-3})(4x^2 - 6x + 1)$

5. $f(x) = (4x^{-1} + 3x^{-3})(2x^{\frac{1}{2}} + 6x^{\frac{3}{4}} + 2)$

6. $f(x) = (7x^2 + 6x - 2)(4x^{-\frac{1}{3}} - 6x^{-\frac{2}{5}})$

7. $f(x) = (3x^2 + 2x - 1)(x^3 - 1)$

8. $f(x) = 6x\sqrt{1 - x^2}$

9. $f(x) = (9x^2 + 4)\sqrt{x - 2}$

10. $f(x) = (x^2 + 1)^3\sqrt{x + 1}$

11. $f(x) = (2x - 4)(3x^2 + 2)^5$

16. $f(x) = (2x^3 - 1)^2(x^4 + x)^7$

12. $f(x) = (2x - 3)^3(4x + 2)^6$

17. $f(x) = (3x + 1)\sqrt[3]{x^2 - 5}$

13. $f(x) = (7x + 3)^2(3x^2 - 14x + 5)^{\frac{1}{2}}$

18. $f(x) = 5(2x + 1)^4(x^2 + 2)^3$

14. $f(x) = (8x^3 - 2)(3x^2 - 5x + 10)^4$

19. $f(x) = 3(4x^2 + 2)^3(2x - 1)^2$

15. $f(x) = (2x - 3)^6(3x + 4)$

20. $f(x) = (4x - 9)^4\sqrt{7x + 2}$

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

2. $f(x) = \dfrac{2x + 3}{3x + 2}$

3. $f(x) = \dfrac{2x + 1}{3x - 5}$

4. $f(x) = \dfrac{x^2 + 5x - 1}{7}$

5. $f(x) = \dfrac{5}{x^3 + 6x^2 - 23}$

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

7. $f(x) = \dfrac{x + x^3}{\sqrt{x}}$

8. $f(x) = \dfrac{10}{\sqrt{x} + 4}$

9. $f(x) = \dfrac{\sqrt{x}}{x + 1}$

10. $f(x) = \dfrac{8}{x^2 + 4}$

11. $f(x) = \dfrac{3x^2 - 2x + 3}{4x^2 - 5}$

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

12. $f(x) = \dfrac{6x^2 - 2x + 5}{2x^2 + 7}$

17. $f(x) = \dfrac{1}{x^4 - 2x + 1}$

13. $f(x) = \dfrac{2x - 3}{x^2 + 2x}$

18. $f(x) = \dfrac{4}{x^2 - 7x + 1}$

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

19. $f(x) = \dfrac{4x + 3}{2x - 7}$

15. $f(x) = \dfrac{x - 1}{x + 1}$

20. $f(x) = \dfrac{4x^3 - 7x^2 + 2}{8}$

1. $f(x) = \left(\dfrac{x+1}{x-1}\right)^2$

2. $f(x) = \left(\dfrac{4x}{x^2+1}\right)^{\frac{1}{4}}$

3. $f(x) = \left(\dfrac{8x+3}{9x+1}\right)^5$

4. $f(x) = \left(\dfrac{1}{x^2+6x-1}\right)^7$

5. $f(x) = \left(\dfrac{x^2-7}{4x-13}\right)^{\frac{1}{4}}$

6. $f(x) = \left(\dfrac{x^3-8}{x^2+4}\right)^5$

7. $f(x) = \left(\dfrac{1}{x^3+1}\right)^{-4}$

8. $f(x) = \left(\dfrac{x^4-2x+1}{3x^2-4}\right)^{-7}$

9. $f(x) = \sqrt{\dfrac{3x-5}{4x^2-7}}$

10. $f(x) = \sqrt{\dfrac{2x-7}{4x+9}}$

11. $f(x) = \sqrt{\dfrac{x^2 + 1}{x^2 + 4}}$

16. $f(x) = \dfrac{(7x^2 + 8)^5}{(5x - 9)^4}$

12. $f(x) = \dfrac{(3x - 2)^3}{2x + 1}$

17. $f(x) = \dfrac{(2x - 7)^5}{(7x^2 - 1)^2}$

13. $f(x) = \dfrac{3x^5 - 6x^2 + 11}{(2x^2 - 8x + 9)^8}$

18. $f(x) = \dfrac{(x - 1)^2}{(x + 1)^5}$

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

19. $f(x) = \dfrac{(2x^2 + 1)^6}{x^2}$

15. $f(x) = \dfrac{\sqrt{x^3 + 5}}{x}$

20. $f(x) = \dfrac{(7x^3 + 5x + 1)^4}{2x^5}$

1. $f(x) = 5e^x + 3e^{2x} - e^{x^2} + 1$

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

2. $f(x) = 2e^{2x} - 5e^{5x} + 3x - 4$

7. $f(x) = (6e^x - e^{5x} + 2)(4x^2 - 5x + 2)$

3. $f(x) = (x^2 + 3x)e^{8x}$

8. $f(x) = e^{3x} + 2e^{2x} - 3e^{\sqrt{x}} + 7$

4. $f(x) = 3e^x - 4e^{-x} - 5$

9. $f(x) = \dfrac{4e^{x^2 - 2}}{2e^x + e^{-x}}$

5. $f(x) = 2e^{x^2} + 3e^{x+1} + e^{-x} + 3$

10. $f(x) = \dfrac{1 + e^{2x}}{2 - e^{2x}}$

11. $f(x) = e^{3x-1} - 4e^{-x} - 9$

12. $f(x) = e^{-2x} + 4e^{-3x} + 7$

13. $f(x) = 8e^{2x+1}(3x^2 - 6x + 1)$

14. $f(x) = \dfrac{e^{3x} - 5}{e^{7x} + 4}$

15. $f(x) = 2x^3 e^x$

16. $f(x) = 9x^2 e^{2x}$

17. $f(x) = \dfrac{5e^{x^2-1}}{2x+3}$

18. $f(x) = \dfrac{\sqrt{x^2 + 9}}{e^x}$

19. $f(x) = 3e^{\sqrt{x^2+4}} + 7x - 2$

20. $f(x) = \dfrac{e^{2x} - e^{-x}}{2}$

1. $f(x) = \ln(x^2 - 7x + 2)$

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

2. $f(x) = 3\ln(x^2 - 5x + 11)$

7. $f(x) = 5\ln(3x) + 4\ln x + 5$

3. $f(x) = 2\ln(7x^4 - 3x^2 + 2)$

8. $f(x) = 7\ln(2x) + 3\ln x - \ln e^x + 3$

4. $f(x) = e^{3x}\ln(x^2 + 9)$

9. $f(x) = \ln\sqrt{x^2 + e^{7x} + 2}$

5. $f(x) = \dfrac{3x - 5}{\ln(x + 2)}$

10. $f(x) = (5x^3 + 7x - 2)\ln x$

11. $f(x) = \sqrt{\ln(3x + 8)}$

16. $f(x) = \ln\left(\dfrac{e^x}{1 + e^x}\right)$

12. $f(x) = \sqrt{3x + 5}\,\ln x$

17. $f(x) = \ln(\ln(e^x + e^{-x}))$

13. $f(x) = (3x^2 - 9x + 2)\ln(4x - 7)$

18. $f(x) = 8e^{x^2}\ln(x^3 + 2x + 8)$

14. $f(x) = \ln(3xe^x)$

19. $f(x) = \dfrac{\ln(2x + 5)}{3x + 1}$

15. $f(x) = \ln\left(\dfrac{x - 1}{x^2 + 1}\right)$

20. $f(x) = \dfrac{2x^2 + e^x}{\ln(4x - 5)}$