

$$\int \frac{1}{(x-a)^n} = \frac{x-a}{(n-1)(x-a)^{n-1}}$$

$$\int \frac{1}{(x-a)^n} = \frac{-1}{(n-1)(x-a)^{n-1}}$$

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

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

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

$$\int \frac{x^3-1}{x-1} = \frac{1}{3}x^3 + \frac{1}{2}x^2 + x$$

$$\int \frac{3x^3+5x+1}{x+1} = x^3 - \frac{3}{2}x^2 + 8x - 7^{x+1}$$

$$\int \frac{x+1}{2x+3} = \frac{1}{2}x - \frac{1}{4}2^{2x+3}$$

$$\int \frac{2x+1}{x^2+x+7} = x^2+x+7$$

$$\int \frac{20x^4+21x^2}{4x^5+7x^3+1} = 4x^5+7x^3+1$$

$$\int \frac{7x+5}{(x^2+8x+12)} = \frac{37}{4}x+6 - \frac{9}{4}x+2$$

$$\int \frac{5x+8}{(x^2+6x-7)} = \frac{27}{8}x+7 + \frac{13}{8}x-1$$

$$\int \frac{2()^3}{()^2 + 3} = x^2 - 3^{x^2+3} \cancel{x}$$

$$\int \frac{10()} {5()^2 + 7} = 5x^2 + 7 \cancel{x}$$

$$\int \frac{2()} {()^2 - () - 1} = x^2 - x - 1 \cancel{x} - \frac{1}{\sqrt{5}} \frac{2x-1+\sqrt{5}}{2x-1-\sqrt{5}} \cancel{x}$$

$$\int \frac{3() + 7}{()^2 + 4() + 4} = -(x-3)^{-1}$$

$$\int \frac{() + 4}{9()^2 + 6() + 1} = -(x+2)^{-1} + 3^{x+2} \cancel{x}$$

$$\int \frac{3() + 7}{()^2 - 4() + 4} = -\frac{11}{9} (3x+1)^{-1} + \frac{1}{9} 3^{3x+1} \cancel{x}$$

$$\int \frac{5() + 1}{4()^2 + 4() + 1} = -13(x-2)^{-1} + 3^{x-2} \cancel{x}$$

$$\int \frac{7() + 5}{(3() - 1)^2} = \frac{3}{4} (2x+1)^{-1} + \frac{5}{4} 2^{2x+1} \cancel{x}$$

$$\int \frac{2() - 5}{(())^3 - 1} = -\frac{22}{9} (3x-1)^{-1} + \frac{7}{9} 3^{3x-1} \cancel{x}$$

$$\int \frac{8()^2 + 5() + 7}{(2() + 3)^3} = 2x+3 \cancel{x} + \frac{19}{4} (2x+3)^{-1} - \frac{35}{8} (2x+3)^{-2}$$

$$\int \frac{()^2 + 5() + 7}{()^2 - 5()} = x - \frac{7}{5} x \cancel{x} + \frac{57}{5} x^{-5} \cancel{x}$$

$$\int \frac{()^2 + 3() + 1}{()^2 - 5} = x + \frac{3}{2} x^{2-5} \cancel{x} + \frac{3}{\sqrt{5}} \frac{\sqrt{5}-x}{\sqrt{5}+x} \cancel{x}$$

$$\int \frac{7() + 8}{()^2 + 3()} = \frac{8}{3} x + \frac{13}{3} x^3$$

$$\int \frac{5()^4 + 8() + 1}{()^2 - 7()} = \frac{5}{3} x^3 + \frac{35}{2} x^2 + 245x - \frac{1}{7} x + \frac{12062}{7} x^{-7}$$

$$\int \frac{2() - 1}{( ()^2 - () + 1 )^3} = -\frac{1}{2} (x^2 - x + 1)^{-2}$$

$$\int \frac{()^3 + 7()^2 + 2() + 1}{()^3 + ()^2 - () - 1} = x + \frac{11}{4} x^{-1} + \frac{5}{2} (x+1)^{-1} + \frac{13}{4} x^{+1}$$

$$\int \frac{()^2}{()^3 - 3() - 2} = \frac{1}{3} (x+1)^{-1} + \frac{4}{9} x^{-2} + \frac{5}{9} x^{+1}$$

$$\int \frac{8()} {3()^4 - 10()^3 + 10() - 3} = -x^{-1} + \frac{3}{8} 3x^{-1} + \frac{3}{8} x^{-3} + \frac{1}{4} x^{+1}$$

$$\int \frac{2() + 7}{()^4 - ()^2} = 7x^{-1} - 2x + \frac{9}{2} x^{-1} - \frac{5}{2} x^{+1}$$

$$\int \frac{()^4 + 8() + 7}{()^3 + 5()^2 + 6()} = \frac{1}{2} x^2 - 5x + \frac{7}{6} x + \frac{64}{3} x^3 - \frac{7}{2} x^2$$

$$\int \frac{12}{( ()^2 - 1 ) ( ()^2 - 4 )} = 2 \frac{x+1}{x-1} + \frac{x-2}{x+2}$$

$$\int \frac{1}{( () + 1 )^3 ( ()^2 + 1 )} = -\frac{163}{3} (x-4)^{-3} - \frac{129}{2} (x-4)^{-2} - 34(x-4)^{-1} + 3^{x-4}$$

$$\int \frac{1}{()^4 + ()^2} = \frac{1}{6} x^{-1} - \frac{5}{36} x - \frac{7}{4} x^{-2} + \frac{26}{9} x^{-3}$$