

1.10 $\int (x^2-1) dx = \int x^2 dx - \int 1 dx = \frac{1}{3}x^3 - x + C$

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

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

$\int (x^2-1)^4 dx = \int (x^8 - 4x^6 + 6x^4 - 4x^2 + 1) dx = \frac{1}{9}x^9 - \frac{4}{7}x^7 + \frac{6}{5}x^5 - \frac{4}{3}x^3 + x + C$

$\int (x^2-1)^5 dx = \int (x^{10} - 5x^8 + 10x^6 - 10x^4 + 5x^2 - 1) dx = \frac{1}{11}x^{11} - \frac{5}{9}x^9 + \frac{10}{7}x^7 - \frac{10}{5}x^5 + \frac{5}{3}x^3 - x + C$

$\int (x^2-1)^6 dx = \int (x^{12} - 6x^{10} + 15x^8 - 20x^6 + 15x^4 - 6x^2 + 1) dx = \frac{1}{13}x^{13} - \frac{6}{11}x^{11} + \frac{15}{9}x^9 - \frac{20}{7}x^7 + \frac{15}{5}x^5 - \frac{6}{3}x^3 + x + C$

$\int (x^2-1)^7 dx = \int (x^{14} - 7x^{12} + 21x^{10} - 35x^8 + 35x^6 - 21x^4 + 7x^2 - 1) dx = \frac{1}{15}x^{15} - \frac{7}{13}x^{13} + \frac{21}{11}x^{11} - \frac{35}{9}x^9 + \frac{35}{7}x^7 - \frac{21}{5}x^5 + \frac{7}{3}x^3 - x + C$

$\int (x^2-1)^8 dx = \int (x^{16} - 8x^{14} + 28x^{12} - 56x^{10} + 56x^8 - 28x^6 + 8x^4 - 1) dx = \frac{1}{17}x^{17} - \frac{8}{15}x^{15} + \frac{28}{13}x^{13} - \frac{56}{11}x^{11} + \frac{56}{9}x^9 - \frac{28}{7}x^7 + \frac{8}{5}x^5 - x + C$

$\int (x^2-1)^9 dx = \int (x^{18} - 9x^{16} + 36x^{14} - 84x^{12} + 84x^{10} - 36x^8 + 9x^6 - 1) dx = \frac{1}{19}x^{19} - \frac{9}{17}x^{17} + \frac{36}{15}x^{15} - \frac{84}{13}x^{13} + \frac{84}{11}x^{11} - \frac{36}{9}x^9 + \frac{9}{7}x^7 - x + C$

$\int (x^2-1)^{10} dx = \int (x^{20} - 10x^{18} + 45x^{16} - 120x^{14} + 120x^{12} - 45x^{10} + 10x^8 - 1) dx = \frac{1}{21}x^{21} - \frac{10}{19}x^{19} + \frac{45}{17}x^{17} - \frac{120}{15}x^{15} + \frac{120}{13}x^{13} - \frac{45}{11}x^{11} + \frac{10}{9}x^9 - x + C$

$\int (x^2-1)^{11} dx = \int (x^{22} - 11x^{20} + 66x^{18} - 220x^{16} + 220x^{14} - 66x^{12} + 11x^{10} - 1) dx = \frac{1}{23}x^{23} - \frac{11}{21}x^{21} + \frac{66}{19}x^{19} - \frac{220}{17}x^{17} + \frac{220}{15}x^{15} - \frac{66}{13}x^{13} + \frac{11}{11}x^{11} - x + C$

$\int (x^2-1)^{12} dx = \int (x^{24} - 12x^{22} + 99x^{20} - 440x^{18} + 440x^{16} - 99x^{14} + 12x^{12} - 1) dx = \frac{1}{25}x^{25} - \frac{12}{23}x^{23} + \frac{99}{21}x^{21} - \frac{440}{19}x^{19} + \frac{440}{17}x^{17} - \frac{99}{15}x^{15} + \frac{12}{13}x^{13} - x + C$

$\int (x^2-1)^{13} dx = \int (x^{26} - 13x^{24} + 117x^{22} - 672x^{20} + 672x^{18} - 117x^{16} + 13x^{14} - 1) dx = \frac{1}{27}x^{27} - \frac{13}{25}x^{25} + \frac{117}{23}x^{23} - \frac{672}{21}x^{21} + \frac{672}{19}x^{19} - \frac{117}{17}x^{17} + \frac{13}{15}x^{15} - x + C$

$\int (x^2-1)^{14} dx = \int (x^{28} - 14x^{26} + 154x^{24} - 924x^{22} + 924x^{20} - 154x^{18} + 14x^{16} - 1) dx = \frac{1}{29}x^{29} - \frac{14}{27}x^{27} + \frac{154}{25}x^{25} - \frac{924}{23}x^{23} + \frac{924}{21}x^{21} - \frac{154}{19}x^{19} + \frac{14}{17}x^{17} - x + C$

$\int (x^2-1)^{15} dx = \int (x^{30} - 15x^{28} + 195x^{26} - 1287x^{24} + 1287x^{22} - 195x^{20} + 15x^{18} - 1) dx = \frac{1}{31}x^{31} - \frac{15}{29}x^{29} + \frac{195}{27}x^{27} - \frac{1287}{25}x^{25} + \frac{1287}{23}x^{23} - \frac{195}{21}x^{21} + \frac{15}{19}x^{19} - x + C$

$\int (x^2-1)^{16} dx = \int (x^{32} - 16x^{30} + 224x^{28} - 1792x^{26} + 1792x^{24} - 224x^{22} + 16x^{20} - 1) dx = \frac{1}{33}x^{33} - \frac{16}{31}x^{31} + \frac{224}{29}x^{29} - \frac{1792}{27}x^{27} + \frac{1792}{25}x^{25} - \frac{224}{23}x^{23} + \frac{16}{21}x^{21} - x + C$

$\int (x^2-1)^{17} dx = \int (x^{34} - 17x^{32} + 272x^{30} - 2448x^{28} + 2448x^{26} - 272x^{24} + 17x^{22} - 1) dx = \frac{1}{35}x^{35} - \frac{17}{33}x^{33} + \frac{272}{31}x^{31} - \frac{2448}{29}x^{29} + \frac{2448}{27}x^{27} - \frac{272}{25}x^{25} + \frac{17}{23}x^{23} - x + C$

$\int (x^2-1)^{18} dx = \int (x^{36} - 18x^{34} + 306x^{32} - 2916x^{30} + 2916x^{28} - 306x^{26} + 18x^{24} - 1) dx = \frac{1}{37}x^{37} - \frac{18}{35}x^{35} + \frac{306}{33}x^{33} - \frac{2916}{31}x^{31} + \frac{2916}{29}x^{29} - \frac{306}{27}x^{27} + \frac{18}{25}x^{25} - x + C$

$\int (x^2-1)^{19} dx = \int (x^{38} - 19x^{36} + 342x^{34} - 3420x^{32} + 3420x^{30} - 342x^{28} + 19x^{26} - 1) dx = \frac{1}{39}x^{39} - \frac{19}{37}x^{37} + \frac{342}{35}x^{35} - \frac{3420}{33}x^{33} + \frac{3420}{31}x^{31} - \frac{342}{29}x^{29} + \frac{19}{27}x^{27} - x + C$

$\int (x^2-1)^{20} dx = \int (x^{40} - 20x^{38} + 380x^{36} - 3800x^{34} + 3800x^{32} - 380x^{30} + 20x^{28} - 1) dx = \frac{1}{41}x^{41} - \frac{20}{39}x^{39} + \frac{380}{37}x^{37} - \frac{3800}{35}x^{35} + \frac{3800}{33}x^{33} - \frac{380}{31}x^{31} + \frac{20}{29}x^{29} - x + C$

$\int (x^2-1)^{21} dx = \int (x^{42} - 21x^{40} + 420x^{38} - 4200x^{36} + 4200x^{34} - 420x^{32} + 21x^{30} - 1) dx = \frac{1}{43}x^{43} - \frac{21}{41}x^{41} + \frac{420}{39}x^{39} - \frac{4200}{37}x^{37} + \frac{4200}{35}x^{35} - \frac{420}{33}x^{33} + \frac{21}{31}x^{31} - x + C$

$\int (x^2-1)^{22} dx = \int (x^{44} - 22x^{42} + 462x^{40} - 4620x^{38} + 4620x^{36} - 462x^{34} + 22x^{32} - 1) dx = \frac{1}{45}x^{45} - \frac{22}{43}x^{43} + \frac{462}{41}x^{41} - \frac{4620}{39}x^{39} + \frac{4620}{37}x^{37} - \frac{462}{35}x^{35} + \frac{22}{33}x^{33} - x + C$

$\int (x^2-1)^{23} dx = \int (x^{46} - 23x^{44} + 506x^{42} - 5060x^{40} + 5060x^{38} - 506x^{36} + 23x^{34} - 1) dx = \frac{1}{47}x^{47} - \frac{23}{45}x^{45} + \frac{506}{43}x^{43} - \frac{5060}{41}x^{41} + \frac{5060}{39}x^{39} - \frac{506}{37}x^{37} + \frac{23}{35}x^{35} - x + C$

$\int (x^2-1)^{24} dx = \int (x^{48} - 24x^{46} + 552x^{44} - 5520x^{42} + 5520x^{40} - 552x^{38} + 24x^{36} - 1) dx = \frac{1}{49}x^{49} - \frac{24}{47}x^{47} + \frac{552}{45}x^{45} - \frac{5520}{43}x^{43} + \frac{5520}{41}x^{41} - \frac{552}{39}x^{39} + \frac{24}{37}x^{37} - x + C$

$\int (x^2-1)^{25} dx = \int (x^{50} - 25x^{48} + 600x^{46} - 6000x^{44} + 6000x^{42} - 600x^{40} + 25x^{38} - 1) dx = \frac{1}{51}x^{51} - \frac{25}{49}x^{49} + \frac{600}{47}x^{47} - \frac{6000}{45}x^{45} + \frac{6000}{43}x^{43} - \frac{600}{41}x^{41} + \frac{25}{39}x^{39} - x + C$

$\int (x^2-1)^{26} dx = \int (x^{52} - 26x^{50} + 650x^{48} - 6500x^{46} + 6500x^{44} - 650x^{42} + 26x^{40} - 1) dx = \frac{1}{53}x^{53} - \frac{26}{51}x^{51} + \frac{650}{49}x^{49} - \frac{6500}{47}x^{47} + \frac{6500}{45}x^{45} - \frac{650}{43}x^{43} + \frac{26}{41}x^{41} - x + C$

$\int (x^2-1)^{27} dx = \int (x^{54} - 27x^{52} + 702x^{50} - 7020x^{48} + 7020x^{46} - 702x^{44} + 27x^{42} - 1) dx = \frac{1}{55}x^{55} - \frac{27}{53}x^{53} + \frac{702}{51}x^{51} - \frac{7020}{49}x^{49} + \frac{7020}{47}x^{47} - \frac{702}{45}x^{45} + \frac{27}{43}x^{43} - x + C$

$\int (x^2-1)^{28} dx = \int (x^{56} - 28x^{54} + 756x^{52} - 7560x^{50} + 7560x^{48} - 756x^{46} + 28x^{44} - 1) dx = \frac{1}{57}x^{57} - \frac{28}{55}x^{55} + \frac{756}{53}x^{53} - \frac{7560}{51}x^{51} + \frac{7560}{49}x^{49} - \frac{756}{47}x^{47} + \frac{28}{45}x^{45} - x + C$

$\int (x^2-1)^{29} dx = \int (x^{58} - 29x^{56} + 812x^{54} - 8120x^{52} + 8120x^{50} - 812x^{48} + 29x^{46} - 1) dx = \frac{1}{59}x^{59} - \frac{29}{57}x^{57} + \frac{812}{55}x^{55} - \frac{8120}{53}x^{53} + \frac{8120}{51}x^{51} - \frac{812}{49}x^{49} + \frac{29}{47}x^{47} - x + C$

$\int (x^2-1)^{30} dx = \int (x^{60} - 30x^{58} + 870x^{56} - 8700x^{54} + 8700x^{52} - 870x^{50} + 30x^{48} - 1) dx = \frac{1}{61}x^{61} - \frac{30}{59}x^{59} + \frac{870}{57}x^{57} - \frac{8700}{55}x^{55} + \frac{8700}{53}x^{53} - \frac{870}{51}x^{51} + \frac{30}{49}x^{49} - x + C$

$\int (x^2-1)^{31} dx = \int (x^{62} - 31x^{60} + 930x^{58} - 9300x^{56} + 9300x^{54} - 930x^{52} + 31x^{50} - 1) dx = \frac{1}{63}x^{63} - \frac{31}{61}x^{61} + \frac{930}{59}x^{59} - \frac{9300}{57}x^{57} + \frac{9300}{55}x^{55} - \frac{930}{53}x^{53} + \frac{31}{51}x^{51} - x + C$

$\int (x^2-1)^{32} dx = \int (x^{64} - 32x^{62} + 992x^{60} - 9920x^{58} + 9920x^{56} - 992x^{54} + 32x^{52} - 1) dx = \frac{1}{65}x^{65} - \frac{32}{63}x^{63} + \frac{992}{61}x^{61} - \frac{9920}{59}x^{59} + \frac{9920}{57}x^{57} - \frac{992}{55}x^{55} + \frac{32}{53}x^{53} - x + C$

$\int (x^2-1)^{33} dx = \int (x^{66} - 33x^{64} + 1056x^{62} - 10560x^{60} + 10560x^{58} - 1056x^{56} + 33x^{54} - 1) dx = \frac{1}{67}x^{67} - \frac{33}{65}x^{65} + \frac{1056}{63}x^{63} - \frac{10560}{61}x^{61} + \frac{10560}{59}x^{59} - \frac{1056}{57}x^{57} + \frac{33}{55}x^{55} - x + C$

$\int (x^2-1)^{34} dx = \int (x^{68} - 34x^{66} + 1122x^{64} - 11220x^{62} + 11220x^{60} - 1122x^{58} + 34x^{56} - 1) dx = \frac{1}{69}x^{69} - \frac{34}{67}x^{67} + \frac{1122}{65}x^{63} - \frac{11220}{63}x^{61} + \frac{11220}{61}x^{59} - \frac{1122}{59}x^{57} + \frac{34}{57}x^{55} - x + C$

$\int (x^2-1)^{35} dx = \int (x^{70} - 35x^{68} + 1190x^{66} - 11900x^{64} + 11900x^{62} - 1190x^{60} + 35x^{58} - 1) dx = \frac{1}{71}x^{71} - \frac{35}{69}x^{69} + \frac{1190}{67}x^{65} - \frac{11900}{65}x^{63} + \frac{11900}{63}x^{61} - \frac{1190}{61}x^{59} + \frac{35}{59}x^{57} - x + C$

$\int (x^2-1)^{36} dx = \int (x^{72} - 36x^{70} + 1260x^{68} - 12600x^{66} + 12600x^{64} - 1260x^{62} + 36x^{60} - 1) dx = \frac{1}{73}x^{73} - \frac{36}{71}x^{71} + \frac{1260}{69}x^{67} - \frac{12600}{67}x^{65} + \frac{12600}{65}x^{63} - \frac{1260}{63}x^{61} + \frac{36}{61}x^{59} - x + C$

$\int (x^2-1)^{37} dx = \int (x^{74} - 37x^{72} + 1332x^{70} - 13320x^{68} + 13320x^{66} - 1332x^{64} + 37x^{62} - 1) dx = \frac{1}{75}x^{75} - \frac{37}{73}x^{73} + \frac{1332}{71}x^{69} - \frac{13320}{69}x^{67} + \frac{13320}{67}x^{65} - \frac{1332}{65}x^{63} + \frac{37}{63}x^{61} - x + C$

$\int (x^2-1)^{38} dx = \int (x^{76} - 38x^{74} + 1404x^{72} - 14040x^{70} + 14040x^{68} - 1404x^{66} + 38x^{64} - 1) dx = \frac{1}{77}x^{77} - \frac{38}{75}x^{75} + \frac{1404}{73}x^{71} - \frac{14040}{71}x^{69} + \frac{14040}{69}x^{67} - \frac{1404}{67}x^{65} + \frac{38}{65}x^{63} - x + C$

$\int (x^2-1)^{39} dx = \int (x^{78} - 39x^{76} + 1482x^{74} - 14820x^{72} + 14820x^{70} - 1482x^{68} + 39x^{66} - 1) dx = \frac{1}{79}x^{79} - \frac{39}{77}x^{77} + \frac{1482}{75}x^{73} - \frac{14820}{73}x^{71} + \frac{14820}{71}x^{69} - \frac{1482}{69}x^{67} + \frac{39}{67}x^{65} - x + C$

$\int (x^2-1)^{40} dx = \int (x^{80} - 40x^{78} + 1560x^{76} - 15600x^{74} + 15600x^{72} - 1560x^{70} + 40x^{68} - 1) dx = \frac{1}{81}x^{81} - \frac{40}{79}x^{79} + \frac{1560}{77}x^{75} - \frac{15600}{75}x^{73} + \frac{15600}{73}x^{71} - \frac{1560}{71}x^{69} + \frac{40}{69}x^{67} - x + C$

$\int (x^2-1)^{41} dx = \int (x^{82} - 41x^{80} + 1640x^{78} - 16400x^{76} + 16400x^{74} - 1640x^{72} + 41x^{70} - 1) dx = \frac{1}{83}x^{83} - \frac{41}{81}x^{81} + \frac{1640}{79}x^{77} - \frac{16400}{77}x^{75} + \frac{16400}{75}x^{73} - \frac{1640}{73}x^{71} + \frac{41}{71}x^{69} - x + C$

$\int (x^2-1)^{42} dx = \int (x^{84} - 42x^{82} + 1722x^{80} - 17220x^{78} + 17220x^{76} - 1722x^{74} + 42x^{72} - 1) dx = \frac{1}{85}x^{85} - \frac{42}{83}x^{83} + \frac{1722}{81}x^{79} - \frac{17220}{79}x^{77} + \frac{17220}{77}x^{75} - \frac{1722}{75}x^{73} + \frac{42}{73}x^{71} - x + C$

$\int (x^2-1)^{43} dx = \int (x^{86} - 43x^{84} + 1806x^{82} - 18060x^{80} + 18060x^{78} - 1806x^{76} + 43x^{74} - 1) dx = \frac{1}{87}x^{87} - \frac{43}{85}x^{85} + \frac{1806}{83}x^{81} - \frac{18060}{81}x^{79} + \frac{18060}{79}x^{77} - \frac{1806}{77}x^{75} + \frac{43}{75}x^{73} - x + C$

$\int (x^2-1)^{44} dx = \int (x^{88} - 44x^{86} + 1892x^{84} - 18920x^{82} + 18920x^{80} - 1892x^{78} + 44x^{76} - 1) dx = \frac{1}{89}x^{89} - \frac{44}{87}x^{87} + \frac{1892}{85}x^{83} - \frac{18920}{83}x^{81} + \frac{18920}{81}x^{79} - \frac{1892}{79}x^{77} + \frac{44}{77}x^{75} - x + C$

$\int (x^2-1)^{45} dx = \int (x^{90} - 45x^{88} + 1980x^{86} - 19800x^{84} + 19800x^{82} - 1980x^{80} + 45x^{78} - 1) dx = \frac{1}{91}x^{91} - \frac{45}{89}x^{89} + \frac{1980}{87}x^{85} - \frac{19800}{85}x^{83} + \frac{19800}{83}x^{81} - \frac{1980}{81}x^{79} + \frac{45}{79}x^{77} - x + C$

$\int (x^2-1)^{46} dx = \int (x^{92} - 46x^{90} + 2070x^{88} - 20700x^{86} + 20700x^{84} - 2070x^{82} + 46x^{80} - 1) dx = \frac{1}{93}x^{93} - \frac{46}{91}x^{91} + \frac{2070}{89}x^{87} - \frac{20700}{87}x^{85} + \frac{20700}{85}x^{83} - \frac{2070}{83}x^{81} + \frac{46}{81}x^{79} - x + C$

$\int (x^2-1)^{47} dx = \int (x^{94} - 47x^{92} + 2162x^{90} - 21620x^{88} + 21620x^{86} - 2162x^{84} + 47x^{82} - 1) dx = \frac{1}{95}x^{95} - \frac{47}{93}x^{93} + \frac{2162}{91}x^{89} - \frac{21620}{89}x^{87} + \frac{21620}{87}x^{85} - \frac{2162}{85}x^{83} + \frac{47}{83}x^{81} - x + C$

$\int (x^2-1)^{48} dx = \int (x^{96} - 48x^{94} + 2256x^{92} - 22560x^{90} + 22560x^{88} - 2256x^{86} + 48x^{84} - 1) dx = \frac{1}{97}x^{97} - \frac{48}{95}x^{95} + \frac{2256}{93}x^{89} - \frac{22560}{91}x^{87} + \frac{22560}{89}x^{85} - \frac{2256}{87}x^{83} + \frac{48}{85}x^{81} - x + C$

$\int (x^2-1)^{49} dx = \int (x^{98} - 49x^{96} + 2352x^{94} - 23520x^{92} + 23520x^{90} - 2352x^{88} + 49x^{86} - 1) dx = \frac{1}{99}x^{99} - \frac{49}{97}x^{97} + \frac{2352}{95}x^{91} - \frac{23520}{93}x^{89} + \frac{23520}{91}x^{87} - \frac{2352}{89}x^{85} + \frac{49}{87}x^{83} - x + C$

$\int (x^2-1)^{50} dx = \int (x^{100} - 50x^{98} + 2450x^{96} - 24500x^{94} + 24500x^{92} - 2450x^{90} + 50x^{88} - 1) dx = \frac{1}{101}x^{101} - \frac{50}{99}x^{99} + \frac{2450}{97}x^{93} - \frac{24500}{95}x^{91} + \frac{24500}{93}x^{89} - \frac{2450}{91}x^{87} + \frac{50}{89}x^{85} - x + C$

$\int (x^2-1)^{51} dx = \int (x^{102} - 51x^{100} + 2550x^{98} - 25500x^{96} + 25500x^{94} - 2550x^{92} + 51x^{90} - 1) dx = \frac{1}{103}x^{103} - \frac{51}{101}x^{101} + \frac{2550}{99}x^{95} - \frac{25500}{97}x^{93} + \frac{25500}{95}x^{91} - \frac{2550}{93}x^{89} + \frac{51}{91}x^{87} - x + C$

$\int (x^2-1)^{52} dx = \int (x^{104} - 52x^{102} + 2652x^{100} - 26520x^{98} + 26520x^{96} - 2652x^{94} + 52x^{92} - 1) dx = \frac{1}{105}x^{105} - \frac{52}{103}x^{103} + \frac{2652}{101}x^{97} - \frac{26520}{99}x^{95} + \frac{26520}{97}x^{93} - \frac{2652}{95}x^{91} + \frac{52}{93}x^{89} - x + C$

$\int (x^2-1)^{53} dx = \int (x^{106} - 53x^{104} + 2758x^{102} - 27580x^{100} + 27580x^{98} - 2758x^{96} + 53x^{94} - 1) dx = \frac{1}{107}x^{107} - \frac{53}{105}x^{105} + \frac{2758}{103}x^{99} - \frac{27580}{101}x^{97} + \frac{27580}{99}x^{95} - \frac{2758}{97}x^{93} + \frac{53}{95}x^{91} - x + C$

$\int (x^2-1)^{54} dx = \int (x^{108} - 54x^{106} + 2868x^{104} - 28680x^{102} + 28680x^{100} - 2868x^{98} + 54x^{96} - 1) dx = \frac{1}{109}x^{109} - \frac{54}{107}x^{107} + \frac{2868}{105}x^{101} - \frac{28680}{103}x^{99} + \frac{28680}{101}x^{97} - \frac{2868}{99}x^{95} + \frac{54}{97}x^{93} - x + C$

$\int (x^2-1)^{55} dx = \int (x^{110} - 55x^{108} + 2980x^{106} - 29800x^{104} + 29800x^{102} - 2980x^{100} + 55x^{98} - 1) dx = \frac{1}{111}x^{111} - \frac{55}{109}x^{109} + \frac{2980}{107}x^{103} - \frac{29800}{105}x^{101} + \frac{29800}{103}x^{99} - \frac{2980}{101}x^{97} + \frac{55}{99}x^{95} - x + C$

$\int (x^2-1)^{56} dx = \int (x^{112} - 56x^{110} + 3096x^{108} - 30960x^{106} + 30960x^{104} - 3096x^{102} + 56x^{100} - 1) dx = \frac{1}{113}x^{113} - \frac{56}{111}x^{111} + \frac{3096}{109}x^{105} - \frac{30960}{107}x^{103} + \frac{30960}{105}x^{101} - \frac{3096}{103}x^{99} + \frac{56}{101}x^{97} - x + C$

$\int (x^2-1)^{57} dx = \int (x^{114} - 57x^{112} + 3216x^{110} - 32160x^{108} + 32160x^{106} - 3216x^{104} + 57x^{102} - 1) dx = \frac{1}{115}x^{115} - \frac{57}{113}x^{113} + \frac{3216}{111}x^{107} - \frac{32160}{109}x^{105} + \frac{32160}{107}x^{103} - \frac{3216}{105}x^{101} + \frac{57}{103}x^{99} - x + C$

$\int (x^2-1)^{58} dx = \int (x^{116} - 58x^{114} + 3338x^{112} - 33380x^{110} + 33380x^{108} - 3338x^{106} + 58x^{104} - 1) dx = \frac{1}{117}x^{117} - \frac{58}{115}x^{115} + \frac{3338}{113}x^{109} - \frac{33380}{111}x^{107} + \frac{33380}{109}x^{105} - \frac{3338}{107}x^{103} + \frac{58}{105}x^{101} - x + C$

$\int (x^2-1)^{59} dx = \int (x^{118} - 59x^{116} + 3462x^{114} - 34620x^{112} + 34620x^{110} - 3462x^{108} + 59x^{106} - 1) dx = \frac{1}{119}x^{119} - \frac{59}{117}x^{117} + \frac{3462}{115}x^{111} - \frac{34620}{113}x^{109} + \frac{34620}{111}x^{107} - \frac{3462}{109}x^{105} + \frac{59}{107}x^{103} - x + C$

$\int (x^2-1)^{60} dx = \int (x^{120} - 60x^{118} + 3590x^{116} - 35900x^{114} + 35900x^{112} - 3590x^{110} + 60x^{108} - 1) dx = \frac{1}{121}x^{121} - \frac{60}{119}x^{119} + \frac{3590}{117}x^{113} - \frac{35900}{115}x^{111} + \frac{35900}{113}x^{109} - \frac{3590}{111}x^{107} + \frac{60}{109}x^{105} - x + C$

$\int (x^2-1)^{61} dx = \int (x^{122} - 61x^{120} + 3720x^{118} - 37200x^{116} + 37200x^{114} - 3720x^{112} + 61x^{110$