

Evaluate the following:

(1) $\int \cos(2x - 5) dx$

(2) $\int e^{2x} \sin 2x dx$

(3) $\int \sin^3(2x) dx$

(4) $\int \frac{dx}{\sqrt{x^2 - 3^2}} dx$

(5) $\int \frac{8x - 1}{x^2 + x - 6} dx$

(6) $\int \frac{2x^2 - 16}{x^3 + 6x^2 + 8x} dx$

(7) $\int \frac{13x - 24}{(x - 3)^2(x + 2)} dx$

(8) $\int \frac{4x^2 - 6x + 6}{x^3 - 3x^2 + 3x - 9} dx$

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

(10) $\int_1^3 \frac{dx}{x - 2}$

(11) $\int \frac{3}{2x - 5} dx$

(12) $\int x^2(2 + x^3)^2 dx$

(13) $\int \frac{\ln x}{x^2} dx$

(14) $\int \sin^3 x \cos^4 x dx$

(15) $\int \frac{x^5}{\sqrt{x^2 + 2}} dx$

(16) $\int \frac{x + 1}{x^2 + x - 2} dx$

(17) $\int \frac{5x - 8 - 3x^2}{x^3 - x^2 + x - 1} dx$

(18) $\int_0^\infty e^{-x} dx$

(19) $\int \frac{x - 5}{x + 1} dx$

(20) $\int \sin^{-1} x dx$

(21) $\int \sin^4 5x dx$

(22) $\int \frac{dx}{x\sqrt{1 + 4x^2}} dx$

(23) $\int \frac{3x + 12}{x^2 + 2x} dx$

(24) $\int \frac{6x^2 + 8x - 2}{3x^3 + 3x^2 - 6x} dx$

(25) $\int \frac{13x + 3 - x^2}{x^3 + 5x^2 + 4x + 20} dx$

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

(27) $\int_0^\infty \frac{dx}{x^2 + 3}$

(28) $\int (2x - 1)^7 dx$

(29) $\int (1 - 5x)^{3/2} dx$

(30) $\int x \tan x \sec x dx$

(31) $\int \sec^4 x \tan^2 x dx$

(32) $\int \sec^3 x \tan^5 x dx$

(33) $\int \frac{x}{\sqrt{3 - 2x - x^2}} dx$

(34) $\int \sqrt{5 + 4x - x^2} dx$

- (35) $\int \frac{x+4}{x^2-x-6} dx$
- (36) $\int \frac{2x^2-12x-126}{(x+6)(x+5)(x-3)} dx$
- (37) $\int \frac{6x-x^2+6}{(x+5)(x-2)^2} dx$
- (38) $\int \frac{6x^2-x+18}{x^3-2x^2+4x-8} dx$
- (39) $\int \frac{dx}{x^{2016}-x}$
- (40) $\int_0^\infty xe^{-2x} dx$
- (41) $\int \frac{x}{x+1} dx$
- (42) $\int \frac{x^2}{(x+1)^3} dx$
- (43) $\int \frac{x+3}{x-2} dx$
- (44) $\int \left(\frac{x-2}{2}\right)^3 \sin 2x dx$
- (45) $\int \ln x dx$
- (46) $\int \arctan 2x dx$
- (47) $\int \cos^2(5x) dx$
- (48) $\int \frac{\sqrt{9-x^2}}{x^2} dx$
- (49) $\int \frac{dx}{x^2\sqrt{x^2+4}}$
- (50) $\int \frac{29-x}{x^2+2x-35} dx$
- (51) $\int \frac{x^2+x-14}{(x+2)(x-1)(x-2)} dx$
- (52) $\int \frac{4x+7}{(x+1)^2(x+2)} dx$
- (53) $\int \frac{12x+5-2x^2}{x^3-4x^2+5x-20} dx$
- (54) $\int \frac{x^4-x^3+3x^2-2x}{x^2+2} dx$
- (55) $\int_{-\infty}^\infty \frac{dx}{e^x+e^{-x}}$
- (56) $\int \frac{e^{\sqrt{x}}}{\sqrt{2}} dx$
- (57) $\int 3xe^{x^2+3} dx$
- (58) $\int 3x^2 \ln(x^3+2) dx$
- (59) $\int x^3 \cos x dx$
- (60) $\int x^3 \ln x dx$
- (61) $\int e^x \cos x dx$
- (62) $\int \tan^4 x dx$
- (63) $\int \frac{\tan^3 x}{\sqrt{\sec x}} dx$
- (64) $\int \frac{\sec x}{\tan^2 x} dx$
- (65) $\int x^3 \sqrt{x^2+16} dx$
- (66) $\int \frac{\sqrt{1+x^2}}{x} dx$
- (67) $\int \frac{\cos x}{\sqrt{4+\sin^2 x}} dx$
- (68) $\int \frac{x+68}{x^2+x-20} dx$
- (69) $\int \frac{5x^2+17x+30}{x^3+3x^2-10x} dx$
- (70) $\int \frac{4x^2+3x+2}{x^3+x^2} dx$

(71)
$$\int \frac{2x^2 + x + 5}{x^3 + 3x^2 + x + 3} dx$$

(72)
$$\int_1^{\infty} \frac{dx}{\sqrt[5]{x}}$$

(73)
$$\int_1^{\infty} \frac{dx}{x^3}$$

(74)
$$\int \sin(2/3x + 1) dx$$

(75)
$$\int e^{3/2x+1} dx$$

(76)
$$\int \frac{\pi}{7x - 2} dx$$

(77)
$$\int e^{x/2} \cos 3x dx$$

(78)
$$\int x^3 \sqrt{4 - x^2} dx$$

(79)
$$\int x^2 \sqrt{x - 1} dx$$

(80)
$$\int \sec^2 x \tan x dx$$

(81)
$$\int \frac{dx}{\sec x \tan x}$$

(82)
$$\int \tan x dx$$

(83)
$$\int \frac{dx}{\sqrt{x^2 + 2x - 3}}$$

(84)
$$\int \frac{dx}{\sqrt{x^2 - 4x + 13}} dx$$

(85)
$$\int \frac{\sqrt{9 - x^2}}{x^2} dx$$

(86)
$$\int \frac{2x - 3}{2x^2 + 6x} dx$$

(87)
$$\int \frac{5x^2 + 13x + 4}{5x^3 + 15x^2 + 10x} dx$$

(88)
$$\int \frac{dx}{\sqrt{x}(1 + \sqrt{x})^2}$$

(89)
$$\int \frac{dx}{x \ln x}$$

(90)
$$\int \sin^2(3x) \cos(3x) dx$$

(91)
$$\int \frac{2x}{e^x} dx$$

(92)
$$\int \sec^3 x dx$$

(93)
$$\int x^3 e^{x^2} dx$$

(94)
$$\int \sin^2 x \cos^3 x dx$$

(95)
$$\int \frac{\cos^3 x}{\sqrt{\sin x}} dx$$

(96)
$$\int \frac{\sqrt{x^2 - 5}}{x} dx$$

(97)
$$\int \frac{dx}{(x^2 + 1)^2}$$

(98)
$$\int \frac{6x^2 - x + 3}{x^3 + 2x^2 - 3x} dx$$

(99)
$$\int \frac{x^2 + 3x - 2}{x^3 + x^2 + x + 1} dx$$

(100)
$$\int \frac{x^2 + 7x + 13}{x + 2} dx$$

(101)
$$\int_0^1 \frac{x}{\sqrt{1 - x^2}} dx$$

(102)
$$\int_0^e \ln x dx$$

(103)
$$\int \left(\frac{2x + 3}{5} \right)^{5/2} dx$$

(104)
$$\int \frac{4x}{\sqrt{3x^2 + 7}} dx$$

(105)
$$\int \frac{\sin x}{2 + \cos x} dx$$

(106)
$$\int (\ln x)^2 dx$$

(107) $\int \frac{\ln x}{x} dx$

(108) $\int \cos^5(3x) dx$

(109) $\int \sin^4 x \cos^4 x dx$

(110) $\int \cos^4 3x dx$

(111) $\int \frac{x^3}{(4x^2 + 1)^{3/2}} dx$

(112) $\int \frac{dx}{\sqrt{x^2 + 9}}$

(113) $\int \frac{8x + 5}{8x^2 + 40x} dx$

(114) $\int \frac{5x^2 - 23x + 20}{(x + 1)(x - 3)^2} dx$

(115) $\int \frac{2x^2 + x - 2}{x - 1} dx$

(116) $\int_1^3 \frac{dx}{(x - 2)^2}$

(117) $\int_0^3 \frac{dx}{(x - 1)^{2/3}}$

(118) $\int \frac{x^2}{(x - 2)^2} dx$

(119) $\int x \sqrt{x + 3} dx$

(120) $\int \frac{x}{\sqrt{3x + 2}} dx$

(121) $\int \frac{x^3 e^{x^2}}{(x^2 + 1)^2} dx$

(122) $\int \frac{x e^{3x}}{(3x + 1)^2} dx$

(123) $\int \sin^2(2x) dx$

(124) $\int \frac{x}{\sqrt{2x - 1}} dx$

(125) $\int \sec x dx$

(126) $\int e^x \sqrt{4 - e^{2x}} dx$