

INTEGRATION REVIEW
BASIC, POWER RULE, U-SUB

$$(1) \int \sqrt{3x+4} dx$$

$$(2) \int x^2(5+2x^3)^8 dx$$

$$(3) \int (5x^4 - 8x^3 + 9x^2 - 2x + 7) dx$$

$$(4) \int \sqrt{x} \left(x + \frac{1}{x}\right) dx$$

$$(5) \int \frac{5t^2 + 7}{t^{4/3}} dt$$

$$(6) \int \left(\sqrt[3]{x} + \frac{1}{\sqrt[3]{x}}\right) dx$$

$$(7) \int \frac{4x^2}{(1-8x^3)^4} dx$$

$$(8) \int \sqrt[3]{6-2x} dx$$

$$(9) \int \frac{2x}{(1-x)^7} dx$$

$$(10) \int t^2 \sqrt{1+t} dt$$

$$(11) \int \frac{y^3}{(1-2y^4)^5} dy$$

$$(12) \int t^4 \sqrt[3]{3-5t^5} dt$$

$$(13) \int x^2 \sqrt{3-2x} dx$$

$$(14) \int \frac{x^2 - 4x - 4}{\sqrt{x}} dx$$

$$(15) \int \frac{a}{\sqrt{3a^2+1}} da$$

$$(16) \int x\sqrt{x+2} dx$$

$$(17) \int \frac{x}{\sqrt{x-3}} dx$$

$$(18) \int \sqrt[3]{x}(x-4) dx$$

$$(19) \int \frac{x}{(2x-1)^5} dx$$

$$(20) \int \frac{x^2+3}{x^2} dx$$

$$(21) \int \frac{2}{\sqrt{t}} dt$$

INTEGRATION REVIEW
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(1) $\int 3x\sqrt{x^2+4} dx$

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

✓(3) $\int 3x(\sqrt{x}+4) dx$

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

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

(6) $\int x\sqrt{x+2} dx$

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

(8) $\int \frac{1}{\theta^2} \cos \frac{1}{\theta} d\theta$

(9) $\int \sqrt{2x} dx$

(10) $\int t^2(t - \frac{2}{t}) dt$

(11) $\int \sin 2x \cos 2x dx$

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

(13) $\int (9-y)\sqrt{y} dy$

(14) $\int \sec(1-x) \tan(1-x) dx$

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

(16) $\int \frac{6t+15}{(t^2+5t-4)^3} dt$

(17) $\int t^3 \sqrt{t-4} dt$

(18) $\int (x+1)\sqrt{2-x} dx$

(19) $\int \sqrt{\cot x} \csc^2 x dx$

(20) $\int \frac{x}{(x+1)^8} dx$

(21) $\int \left[x^2 + \frac{1}{(3x)^2} \right] dx$

(22) $\int \frac{\csc^2 x}{\cot^3 x} dx$

(23) $\int 3\pi\theta(6-\theta^{2/3}) d\theta$

(24) $\int \frac{t+2t^2}{\sqrt{t}} dt$

(25) $\int \sqrt{\cot 2x} \csc^2 2x dx$

(26) $\int_{-\pi/4}^{\pi/4} |\tan x| dx$

(27) $\int_2^3 |x^3 - 2x^2 - x + 2| dx$

(28) $\int_1^8 |\sqrt[3]{x}| dx$