

Math Exercises & Math Problems: Indefinite Integral of a Function

*PDF export from math-exercises.com

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| a) $\int (3x^2 - 6x + 3)dx$ | j) $\int (\sqrt{x} + \sqrt[5]{x} + \sqrt[9]{x})dx$ | s) $\int (\pi^2 + e - \sqrt{2})dx$ |
| b) $\int (8x^3 - x^2 + 5x - 1)dx$ | k) $\int (\sqrt[5]{x^7} - \sqrt[4]{x^8} + \sqrt[3]{x^9})dx$ | t) $\int (1 - x^e + e^x - e^e)dx$ |
| c) $\int \left(x^5 + \frac{1}{4}x^4 + \frac{1}{3}x^3\right)dx$ | l) $\int \left(\frac{1}{\sqrt[3]{3x^8}} - \frac{1}{\sqrt[7]{3x^5}}\right)dx$ | u) $\int (4 \times 8^x + 4^x + 6^x \ln 6)dx$ |
| d) $\int \left(-\frac{x^4}{2} - \frac{x^3}{3} - \frac{x^2}{6}\right)dx$ | m) $\int \left(\frac{\sqrt[3]{4x}}{6} + \sqrt{\frac{1}{x^4}}\right)dx$ | v) $\int \left(\sin x + \frac{1}{x} + \cos x\right)dx$ |
| e) $\int (2x - 6)^3 dx$ | n) $\int (\sqrt{x^5} - \sqrt[5]{x^2})dx$ | w) $\int \left(\frac{1}{\cos^2 x} - \frac{1}{\sin^2 x}\right)dx$ |
| f) $\int ((\sqrt{x} - 5)^2 - x)^2 dx$ | o) $\int (\sqrt[3]{x}\sqrt{x} + \sqrt[6]{x^5}\sqrt{x^4})dx$ | x) $\int \left(\frac{2}{1+x^2} - \frac{5}{\sqrt{1-x^2}}\right)dx$ |
| g) $\int (x^{10} - x^8 + x^6 - x^4)dx$ | p) $\int \sqrt{x}\sqrt{x^3}\sqrt{x^5}\sqrt{x^7} dx$ | y) $\int \frac{1}{x \ln x} dx$ |
| h) $\int (x^{-5} + x^{-3} + x^{-1})dx$ | q) $\int (1 - 3x + x^3)^{\sqrt[3]{x}} dx$ | z) $\int (\tan x + \cot x)dx$ |
| i) $\int \left(\frac{16}{x^5} - \frac{9}{x^4} + \frac{4}{x^3}\right)dx$ | r) $\int \left(\sqrt[7]{\frac{1}{x^5}} + \frac{\sqrt[6]{x}\sqrt{x^{-9}}}{\sqrt{9x}\sqrt{x^{10}}}\right)dx$ | Z) $\int \left(\frac{x^2 - 2x}{x^3 - 3x^2 + 1}\right)dx$ |
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- a)** $x^3 - 3x^2 + 3x + c$
j) $\frac{2}{3}x^{\frac{3}{2}} + \frac{5}{6}x^{\frac{6}{5}} + \frac{9}{10}x^{\frac{10}{9}} + c$
s) $(\pi^2 + e - \sqrt{2})x + c$
- b)** $2x^4 - \frac{x^3}{3} + \frac{5x^2}{2} - x + c$
k) $\frac{5}{12}x^{\frac{12}{5}} - \frac{1}{3}x^3 + \frac{1}{4}x^4 + c$
t) $x - \frac{x^{e+1}}{e+1} + e^x - e^e x + c$
- c)** $\frac{x^6}{6} + \frac{x^5}{20} + \frac{x^4}{12} + c$
l) $-\frac{1}{5}\sqrt[3]{\frac{9}{x^5}} - \frac{7}{2}\sqrt[7]{\frac{x^2}{3}} + c$
u) $\frac{4 \times 8^x}{\ln 8} + \frac{4^x}{\ln 4} + 6^x + c$
- d)** $-\frac{x^5}{10} - \frac{x^4}{12} - \frac{x^3}{18} + c$
m) $\frac{\sqrt[3]{4x^4}}{8} - \frac{1}{x} + c$
v) $-\cos x + \ln|x| + \sin x + c$
- e)** $2x^4 - 24x^3 + 108x^2 - 216x + c$
n) $\frac{2}{7}x^{\frac{7}{2}} - \frac{5}{7}x^{\frac{7}{5}} + c$
w) $\tan x + \cot x + c$
- f)** $50x^2 - \frac{1000}{3}x^{\frac{3}{2}} + 625x + c$
o) $\frac{2}{3}x^{\frac{3}{2}} + \frac{6}{13}x^{\frac{13}{6}} + c$
x) $2\arctan x - 5\arcsin x + c$
- g)** $\frac{x^{11}}{11} - \frac{x^9}{9} + \frac{x^7}{7} - \frac{x^5}{5} + c$
p) $\frac{16}{53}x^{\frac{53}{16}} + c$
y) $\ln|\ln x| + c$
- h)** $-\frac{x^{-4}}{4} - \frac{x^{-2}}{2} + \ln|x| + c$
q) $\frac{3}{4}x^{\frac{4}{3}} - \frac{9}{7}x^{\frac{7}{3}} + \frac{3}{13}x^{\frac{13}{3}} + c$
z) $\ln|\tan x| + c$
- i)** $-\frac{4}{x^4} + \frac{3}{x^3} - \frac{2}{x^2} + c$
r) $\frac{7}{2}x^{\frac{2}{7}} - \frac{4}{31}x^{-\frac{31}{12}} + c$
Z) $\frac{1}{3}\ln|x^3 - 3x^2 + 1| + c$

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| a) $\int \sqrt{5+2x} \, dx$ | j) $\int \frac{x}{x^2+1} \, dx$ | s) $\int \frac{x^2}{\sqrt{1-x^6}} \, dx$ |
| b) $\int x(3x^2-4)^5 \, dx$ | k) $\int \frac{3x^3}{\sqrt[3]{x^4+4}} \, dx$ | t) $\int e^{\cos^2 x} \sin 2x \, dx$ |
| c) $\int \frac{\ln^2 x}{x} \, dx$ | l) $\int \cot(5x+9) \, dx$ | u) $\int \frac{1}{x \sqrt[3]{\ln 3x}} \, dx$ |
| d) $\int \frac{3}{\sqrt{(5-2x)^3}} \, dx$ | m) $\int \frac{2^x}{1+4^x} \, dx$ | v) $\int \frac{\cos x}{\sqrt[3]{\sin^2 x}} \, dx$ |
| e) $\int \frac{1}{x^2} \cos \frac{1}{x} \, dx$ | n) $\int \frac{e^{1/x}}{x^2} \, dx$ | w) $\int \sin 7x \, dx$ |
| f) $\int \frac{5}{\sqrt[3]{1-6x}} \, dx$ | o) $\int \frac{\sqrt{1+\ln x}}{x} \, dx$ | x) $\int 3x^4 e^{-x^5+2} \, dx$ |
| g) $\int \sin\left(\frac{3x-5}{2}\right) \, dx$ | p) $\int \frac{\operatorname{tg} \sqrt{x}}{\sqrt{x}} \, dx$ | y) $\int x^2 e^{x^3} \, dx$ |
| h) $\int x^2 \sqrt[3]{6-x^3} \, dx$ | q) $\int \frac{2}{x^2+9} \, dx$ | z) $\int \frac{x}{(x^2-4)^3} \, dx$ |
| i) $\int \frac{1}{\sin^2\left(\frac{x-2}{3}\right)} \, dx$ | r) $\int \frac{1}{(5+3x)^3} \, dx$ | Z) $\int \frac{1}{x^3} \sin \frac{1}{x^2} \, dx$ |
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|-----------|---|-----------|--------------------------------------|-----------|---------------------------------------|
| a) | $\frac{1}{3}\sqrt{(5+2x)^3} + c$ | j) | $\frac{1}{2}\ln x^2+1 + c$ | s) | $\frac{1}{3}\arcsin x^3 + c$ |
| b) | $\frac{(3x^2-4)^6}{36} + c$ | k) | $\frac{9}{8}\sqrt[3]{(x^4+4)^2} + c$ | t) | $-e^{\cos^2 x} + c$ |
| c) | $\frac{\ln^3 x}{3} + c$ | l) | $\frac{1}{5}\ln \sin(5x+9) + c$ | u) | $\frac{3}{2}\sqrt[3]{(\ln 3x)^2} + c$ |
| d) | $\frac{3}{\sqrt{5-2x}} + c$ | m) | $\frac{1}{\ln 2}\arctan 2^x + c$ | v) | $3\sqrt[3]{\sin x} + c$ |
| e) | $-\sin\frac{1}{x} + c$ | n) | $-e^{1/x} + c$ | w) | $-\frac{1}{7}\cos 7x + c$ |
| f) | $-\frac{5}{4}\sqrt[3]{(1-6x)^2} + c$ | o) | $\frac{2}{3}\sqrt{(1+\ln x)^3} + c$ | x) | $-\frac{3}{5}e^{-x^5+2} + c$ |
| g) | $-\frac{2}{3}\cos\left(\frac{3x-5}{2}\right) + c$ | p) | $-2\ln \cos\sqrt{x} + c$ | y) | $\frac{1}{3}e^{x^3} + c$ |
| h) | $-\frac{1}{4}\sqrt[3]{(6-x^3)^4} + c$ | q) | $\frac{2}{3}\arctan\frac{x}{3} + c$ | z) | $-\frac{1}{4(x^2-4)^2} + c$ |
| i) | $-3\cot\left(\frac{x-2}{3}\right) + c$ | r) | $-\frac{1}{6(5+3x)^2} + c$ | Z) | $\frac{1}{2}\cos\frac{1}{x^2} + c$ |

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| a) $\int x \sin x \, dx$ | j) $\int \frac{\ln x}{x^2} \, dx$ | s) $\int 12x^3 \arctan x \, dx$ |
| b) $\int x^2 \ln x \, dx$ | k) $\int (x^2 + 2x - 3) e^{-x} \, dx$ | t) $\int 2 \ln^2 x \, dx$ |
| c) $\int x e^x \, dx$ | l) $\int x e^{2x} \, dx$ | u) $\int 2x \arctan x \, dx$ |
| d) $\int (1-x) 2^x \, dx$ | m) $\int \frac{3 \ln x}{\sqrt{x}} \, dx$ | v) $\int (2x - 5) \sin 3x \, dx$ |
| e) $\int x^2 e^x \, dx$ | n) $\int x \operatorname{arccot} x \, dx$ | w) $\int (4x - x^2) \times 5^x \, dx$ |
| f) $\int 3^x \times 5x \, dx$ | o) $\int \sqrt{x} \ln x \, dx$ | x) $\int (3x + 5) \cos \frac{x}{3} \, dx$ |
| g) $\int \ln x \, dx$ | p) $\int (2x + 1) e^x \, dx$ | y) $\int (x^2 + 6x - 7) \cos x \, dx$ |
| h) $\int x^2 \cos x \, dx$ | q) $\int \cos(\ln x) \, dx$ | z) $\int e^x \sin x \, dx$ |
| i) $\int x^3 \ln x \, dx$ | r) $\int x \ln(x-1) \, dx$ | Z) $\int 2e^x \cos x \, dx$ |
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- a)** $-x \cos x + \sin x + c$ **j)** $-\frac{1}{x}(\ln x + 1) + c$ **s)** $(3x^4 - 3)\arctan x - x^3 + 3x + c$
- b)** $\frac{1}{3}x^3\left(\ln x - \frac{1}{3}\right) + c$ **k)** $-e^{-x}(x^2 + 4x + 1) + c$ **t)** $2x \ln^2 x - 4x \ln x + 4x + c$
- c)** $e^x(x - 1) + c$ **l)** $\frac{(2x - 1)e^{2x}}{4} + c$ **u)** $(x^2 + 1)\arctan x - x + c$
- d)** $\frac{2^x}{\ln 2}\left(\frac{1}{\ln 2} + 1 - x\right) + c$ **m)** $6\sqrt{x}(\ln x - 2) + c$ **v)** $-\frac{2x - 5}{3}\cos 3x + \frac{2}{9}\sin 3x + c$
- e)** $e^x(x^2 - 2x + 2) + c$ **n)** $\frac{x^2 + 1}{2}\operatorname{arccot} x + \frac{x}{2} + c$ **w)** $\frac{5^x}{\ln 5}\left(4x - x^2 - \frac{4 - 2x}{\ln 5} - \frac{2}{\ln^2 5}\right) + c$
- f)** $\frac{5 \times 3^x}{\ln^2 3}(x \ln 3 - 1) + c$ **o)** $\frac{2}{3}\sqrt{x^3}\left(\ln x - \frac{2}{3}\right) + c$ **x)** $(9x + 15)\sin \frac{x}{3} + 27\cos \frac{x}{3} + c$
- g)** $x \ln x - x + c$ **p)** $(2x - 1)e^x + c$ **y)** $(x^2 + 6x - 9)\sin x + (2x + 6)\cos x + c$
- h)** $x^2 \sin x + 2x \cos x - 2 \sin x + c$ **q)** $\frac{1}{2}x(\sin(\ln x) + \cos(\ln x)) + c$ **z)** $\frac{1}{2}e^x(\sin x - \cos x) + c$
- i)** $\frac{1}{4}x^4\left(\ln x - \frac{1}{4}\right) + c$ **r)** $\frac{x^2 - 1}{2}\ln(x - 1) - \frac{x^2 + 2x}{4} + c$ **Z)** $e^x(\sin x + \cos x) + c$

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| a) $\int \frac{x}{x+5} dx$ | j) $\int \frac{1}{x(2+x)} dx$ | s) $\int \frac{x}{(x+1)(2x+1)} dx$ |
| b) $\int \frac{3x-1}{x+2} dx$ | k) $\int \frac{1}{6+x-x^2} dx$ | t) $\int \frac{x}{2x^2-3x-2} dx$ |
| c) $\int \frac{9x^3}{3x+1} dx$ | l) $\int \frac{x^3+2x^2}{x^2+2x+1} dx$ | u) $\int \frac{5x-14}{x^3-x^2-4x+4} dx$ |
| d) $\int \frac{x+3}{x^2+4} dx$ | m) $\int \frac{x^3-7x^2+8x+3}{x^2-7x+12} dx$ | v) $\int \frac{33}{6x^3-7x^2-3x} dx$ |
| e) $\int \frac{x^4}{x^2+1} dx$ | n) $\int \frac{x^3-4x^2+6}{x^2-4x+4} dx$ | w) $\int \frac{4x+5}{x^2+4x+5} dx$ |
| f) $\int \frac{x^3}{x^2+4} dx$ | o) $\int \frac{2x^3+12x^2-34}{x^2+6x+8} dx$ | x) $\int \frac{12(x-1)}{(x+1)(x^2-4)} dx$ |
| g) $\int \frac{4}{x^2-4} dx$ | p) $\int \frac{4x^3-16x^2+20}{x^2-4x+3} dx$ | y) $\int \frac{32x}{(2x-1)(4x^2-16x+15)} dx$ |
| h) $\int \frac{2x-1}{(x-1)(x-2)} dx$ | q) $\int \frac{2x^3-3x+5}{x^2-1} dx$ | z) $\int \frac{6(x^3+1)}{x^3-5x^2+6x} dx$ |
| i) $\int \frac{x+2}{x^2+x} dx$ | r) $\int \frac{5x-3}{x^2-5x+6} dx$ | Z) $\int \frac{1}{x^2+4x+5} dx$ |
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- a)** $x - 5 \ln |x + 5| + c$ **j)** $\frac{1}{2} \ln \left| \frac{x}{2+x} \right| + c$ **s)** $\ln |x+1| - \frac{1}{2} \ln |2x+1| + c$
- b)** $3x - 7 \ln |x + 2| + c$ **k)** $\frac{1}{5} \ln \left| \frac{2+x}{3-x} \right| + c$ **t)** $\frac{2}{5} \ln |x-2| + \frac{1}{10} \ln |2x+1| + c$
- c)** $x^3 - \frac{x^2}{2} + \frac{x}{3} - \frac{1}{9} \ln |3x+1| + c$ **l)** $\frac{x^2}{2} - \ln |x+1| - \frac{1}{x+1} + c$ **u)** $3 \ln |x-1| - \ln |x-2| - 2 \ln |x+2| + c$
- d)** $\frac{1}{2} \ln |x^2 + 4| + \frac{3}{2} \arctan \frac{x}{2} + c$ **m)** $\frac{x^2}{2} + 9 \ln |x-3| - 13 \ln |x-4| + c$ **v)** $9 \ln |3x+1| - 11 \ln |x| + 2 \ln |2x-3| + c$
- e)** $\frac{x^3}{3} - x + \arctan x + c$ **n)** $\frac{x^2}{2} + \frac{2}{x-2} - 4 \ln |x-2| + c$ **w)** $2 \ln (x^2 + 4x + 5) - 3 \arctan (x+2) + c$
- f)** $\frac{x^2}{2} - 2 \ln |x^2 + 4| + c$ **o)** $x^2 - \ln |x+2| - 15 \ln |x+4| + c$ **x)** $\ln |x-2| + 8 \ln |x+1| - 9 \ln |x+2| + c$
- g)** $\ln |x-2| - \ln |x+2| + c$ **p)** $2x^2 - 8 \ln |x-3| - 4 \ln |x-1| + c$ **y)** $\ln |2x-1| + 5 \ln |2x-5| - 6 \ln |2x-3| + c$
- h)** $3 \ln |x-2| - \ln |x-1| + c$ **q)** $x^2 + 2 \ln |x-1| - 3 \ln |x+1| + c$ **z)** $6x - 27 \ln |x-2| + \ln |x| + 56 \ln |x-3| + c$
- i)** $2 \ln |x| - \ln |x+1| + c$ **r)** $12 \ln |x-3| - 7 \ln |x-2| + c$ **Z)** $\arctan (x+2) + c$

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| a) $\int x^2 \sqrt{x^3 + 4} \, dx$ | j) $\int \frac{1}{x^3 + 1} \, dx$ | s) $\int \frac{1}{(3x + 7)^4} \, dx$ |
| b) $\int \sin 5x \, dx$ | k) $\int \frac{\cos 2x}{\cos x - \sin x} \, dx$ | t) $\int \sin^3 x \cos x \, dx$ |
| c) $\int \frac{e^{\sqrt{x}}}{\sqrt{x}} \, dx$ | l) $\int \frac{\sin x}{\sqrt{\cos^5 x}} \, dx$ | u) $\int \frac{x + \arccos x}{\sqrt{1 - x^2}} \, dx$ |
| d) $\int \frac{1}{x \ln^2 x} \, dx$ | m) $\int \frac{e^x (1 + e^x)}{1 + e^{2x}} \, dx$ | v) $\int (2x^2 - 3x + 1)e^x \, dx$ |
| e) $\int \sin^7 x \, dx$ | n) $\int x^2 \cos x \, dx$ | w) $\int \arcsin x \, dx$ |
| f) $\int x \sin x \, dx$ | o) $\int \frac{1}{\sqrt{4 - x^2}} \, dx$ | x) $\int x \ln(3 + x^2) \, dx$ |
| g) $\int \frac{x}{x^2 + 3} \, dx$ | p) $\int \arctan \sqrt{2x - 1} \, dx$ | y) $\int e^x \cos 2x \, dx$ |
| h) $\int \log x \, dx$ | q) $\int (x^2 - 2)^3 \, dx$ | z) $\int \cot^2 x \, dx$ |
| i) $\int \frac{1}{x^2} \sin \frac{1}{x} \, dx$ | r) $\int e^{-x} \, dx$ | Z) $\int \sin(\ln x) \, dx$ |
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- a)** $\frac{2}{9}(x^3+4)^{\frac{3}{2}}+c$
j) $\ln\left(6\sqrt[6]{\frac{(x+1)^2}{|x^2-x+1|}}\right)+\frac{\arctan\left(\frac{2x-1}{\sqrt{3}}\right)}{\sqrt{3}}+c$
s) $-\frac{1}{9(3x+7)^3}+c$
- b)** $-\frac{\cos 5x}{5}+c$
k) $\sin x-\cos x+c$
t) $\frac{1}{4}\sin^4 x+c$
- c)** $2e^{\sqrt{x}}+c$
l) $\frac{2}{3}\cos^{-\frac{3}{2}}x+c$
u) $-\sqrt{1-x^2}-\frac{(\arccos x)^2}{2}+c$
- d)** $-\frac{1}{\ln x}+c$
m) $\arctan e^x+\frac{\ln|1+e^{2x}|}{2}+c$
v) $e^x(2x^2-7x+8)+c$
- e)** $\frac{\cos^7 x}{7}-\frac{3\cos^5 x}{5}+\cos^3 x-\cos x+c$
n) $(x^2-2)\sin x+2x\cos x+c$
w) $x\arcsin x+\sqrt{1-x^2}+c$
- f)** $-x\cos x+\sin x+c$
o) $\arcsin\frac{x}{2}+c$
x) $\frac{3+x^2}{2}[\ln(3+x^2)-1]+c$
- g)** $\frac{1}{2}\ln|x^2+3|+c$
p) $x\arctan\sqrt{2x-1}-\frac{\sqrt{2x-1}}{2}+c$
y) $\frac{e^x}{5}(2\sin 2x+\cos 2x)+c$
- h)** $x\log x-\frac{x}{\ln 10}+c$
q) $\frac{1}{7}x^7-\frac{6}{5}x^5+4x^3-8x+c$
z) $-\cot x-x+c$
- i)** $\cos\frac{1}{x}+c$
r) $-e^{-x}+c$
Z) $\frac{x}{2}[\sin(\ln x)-\cos(\ln x)]+c$

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| a) $\int \frac{1}{3x+7} dx$ | j) $\int (e^x - e^3) dx$ | s) $\int (5x-11)^9 dx$ |
| b) $\int x^3 e^{x^2} dx$ | k) $\int \frac{15^x - 9^x}{3^x} dx$ | t) $\int \frac{1}{\cos^2 x \sin^2 x} dx$ |
| c) $\int \cos^4 x dx$ | l) $\int 5^x e^x dx$ | u) $\int \cotan^2 x dx$ |
| d) $\int x(3x-4)^2 dx$ | m) $\int \frac{1}{3x^2-5x} dx$ | v) $\int \frac{5-2\sqrt{\arcsin x}}{\sqrt{1-x^2} \arcsin x} dx$ |
| e) $\int 2x \arctan x dx$ | n) $\int 3 \cos \frac{x+2}{3} dx$ | w) $\int (1+x)^{15} dx$ |
| f) $\int \frac{x+2}{3x^2+1} dx$ | o) $\int \frac{(3^x+4^x)^2}{12^x} dx$ | x) $\int \sqrt[5]{(-3x+8)^6} dx$ |
| g) $\int 3 \cos 3x dx$ | p) $\int \frac{1}{x} \cos(\ln x) dx$ | y) $\int \frac{\cos x}{10+\sin x} dx$ |
| h) $\int \sqrt{x} \sqrt{x^3} dx$ | q) $\int \frac{10^x+4^x}{2^x} dx$ | z) $\int \sin(1-5x) dx$ |
| i) $\int x e^{-x^2} dx$ | r) $\int \frac{\sin 2x}{\cos x} dx$ | Z) $\int e^{-3x+1} dx$ |
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- a)** $\frac{1}{3} \ln |3x+7| + c$
j) $e^x - e^3 x + c$
s) $\frac{(5x-11)^{10}}{50} + c$
- b)** $\frac{e^{x^2}}{2} (x^2 - 1) + c$
k) $\frac{5^x}{\ln 5} - \frac{3^x}{\ln 3} + c$
t) $\tan x - \cot x + c$
- c)** $\frac{2 \sin x \cos^3 x + 3(x + \sin x \cos x)}{8} + c$
l) $\frac{(5e)^x}{\ln(5e)} + c$
u) $-\cot x - x + c$
- d)** $\frac{9}{4} x^4 - 8x^3 + 8x^2 + c$
m) $\frac{1}{5} \ln \left| \frac{3x-5}{x} \right| + c$
v) $5 \ln |\arcsin x| - 4 \sqrt{\arcsin x} + c$
- e)** $(x^2 + 1) \arctan x - x + c$
n) $9 \sin \frac{x+2}{3} + c$
w) $\frac{(1+x)^{16}}{16} + c$
- f)** $\frac{\ln |3x^2+1|}{6} + \frac{2}{\sqrt{3}} \arctan(\sqrt{3}x) + c$
o) $\frac{\left(\frac{3}{4}\right)^x}{\ln \frac{3}{4}} + 2x + \frac{\left(\frac{4}{3}\right)^x}{\ln \frac{4}{3}} + c$
x) $-\frac{5}{33} (-3x+8)^{\frac{11}{5}} + c$
- g)** $\sin 3x + c$
p) $\sin(\ln x) + c$
y) $\ln |10 + \sin x| + c$
- h)** $\frac{4}{9} x^{\frac{9}{4}} + c$
q) $\frac{5^x}{\ln 5} + \frac{2^x}{\ln 2} + c$
z) $\frac{1}{5} \cos(1-5x) + c$
- i)** $-\frac{1}{2} e^{-x^2} + c$
r) $-2 \cos x + c$
Z) $-\frac{1}{3} e^{-3x+1} + c$

a) $\int \sqrt{-2x+8} \, dx$

b) $\int \frac{2x+4}{x^3-4x} \, dx$

c) $\int \frac{1}{\sqrt{9-4x^2}} \, dx$

d) $\int \frac{1}{3x^2+8} \, dx$

e) $\int x \ln^2 x \, dx$

f) $\int \frac{1}{(2-x)^4} \, dx$

g) $\int \sin^2 x \, dx$

h) $\int \frac{\sin x}{2+5 \cos x} \, dx$

i) $\int \frac{\ln^4 x}{x} \, dx$

j) $\int e^{\sin x} \cos x \, dx$

k) $\int \frac{3x^2+x+2}{x^2+x} \, dx$

l) $\int \frac{4}{\cos x} \, dx$

m) $\int \frac{2x}{\sqrt{x^2+1}} \, dx$

n) $\int \frac{\arctan^2 x}{1+x^2} \, dx$

o) $\int \frac{1}{\sin x \cos x} \, dx$

p) $\int 2x\sqrt{x^2-1} \, dx$

q) $\int \frac{\sqrt{\ln x}}{x} \, dx$

r) $\int \frac{\tan^3 x}{\cos^2 x} \, dx$

s) $\int \frac{e^{2x}}{2+e^{2x}} \, dx$

t) $\int x \cos x^2 \, dx$

u) $\int (2x-7) \tan^2 x \, dx$

v) $\int (x^2-x)e^x \, dx$

w) $\int e^x \sin e^x \, dx$

x) $\int \frac{1}{\sin 4x} \, dx$

y) $\int 5^x \sin x \, dx$

z) $\int \frac{2x-1}{(x-1)(x-2)} \, dx$

Z) $\int \frac{1}{x(\ln^2 x + \ln x - 6)} \, dx$

a)	$-\frac{1}{3}(-2x+8)^{\frac{3}{2}}+c$	j)	$e^{\sin x}+c$	s)	$\frac{1}{2}\ln 2+e^{2x} +c$
b)	$\ln x-2 -\ln x +c$	k)	$3x+2\ln x -4\ln x+1 +c$	t)	$\frac{1}{2}\sin x^2+c$
c)	$\frac{1}{2}\arcsin\left(\frac{2}{3}x\right)+c$	l)	$2\ln(\cos^2 x)+c$	u)	$(\tan x-x)(2x-7)+2\ln \cos x +x^2+c$
d)	$\frac{\sqrt{6}}{12}\arctan\left(\sqrt{\frac{3}{8}}x\right)+c$	m)	$2\sqrt{x^2+1}+c$	v)	$(x^2-3x+3)e^x+c$
e)	$\frac{x^2}{2}\left(\ln^2 x-\ln x+\frac{1}{2}\right)+c$	n)	$\frac{\arctan^3 x}{3}+c$	w)	$-\cos e^x+c$
f)	$\frac{1}{3(2-x)^3}+c$	o)	$\ln \tan x +c$	x)	$-\frac{1}{8}\ln(\sin^2 4x)+c$
g)	$\frac{x-\sin x \cos x}{2}+c$	p)	$\frac{2}{3}(x^2-1)^{\frac{3}{2}}+c$	y)	$\frac{5^x(\ln 5 \cdot \sin x - \cos x)}{1+(\ln 5)^2}+c$
h)	$-\frac{1}{5}\ln 2+5\cos x +c$	q)	$\frac{2}{3}\sqrt{\ln^3 x}+c$	z)	$3\ln x-2 -\ln x-1 +c$
i)	$\frac{1}{5}\ln^5 x+c$	r)	$\frac{\tan^4 x}{4}+c$	Z)	$\frac{1}{5}(\ln \ln x-2 -\ln \ln x+3)+c$