The method: Other antiderivatives

$\int(1 \div x)\,dx = \ln|x| + C$, $\int e^x\,dx = e^x + C$, $\int \cos x\,dx = \sin x + C$, $\int \sin x\,dx = -\cos x + C$.

$\int 4e^x\,dx = 4e^x + C$

e^x is its own antiderivative

$4e^x + C$

$\int 12\sqrt{x}\,dx = 8x^{\frac{3}{2}} + C$

$\sqrt{x}$ = x to the 1/2; raise the power to 3/2 and divide by 3/2

$8x^{\frac{3}{2}} + C$

$\int \frac{12}{x^4}\,dx = -\frac{4}{x^3} + C$

write it as $12x^{-4}$, then use the power rule

$-\frac{4}{x^3} + C$

Problems 1 and 2 worked out · Version 0A

$\int \frac{7}{x}\,dx = 7\ln|x| + C$

$\int(1 \div x)\,dx = \ln|x| + C$

$7\ln|x| + C$

$\int 3\sqrt{x}\,dx = 2x^{\frac{3}{2}} + C$

$\sqrt{x}$ = x to the 1/2; raise the power to 3/2 and divide by 3/2

$2x^{\frac{3}{2}} + C$

Other antiderivatives · Version 0A

1) $7\ln|x| + C$ 2) $2x^{\frac{3}{2}} + C$ 3) $6\sin x + C$
4) $-8\cos x + C$ 5) $2\sin x + C$ 6) $3\ln|x| + C$
7) $-7\cos x + C$ 8) $4e^x + C$ 9) $7\sin x + C$
10) $4x^{\frac{3}{2}} + C$ 11) $3\ln|x| + C$ 12) $6\ln|x| + C$
13) $9\ln|x| + C$ 14) $4x^{\frac{3}{2}} + C$ 15) $7\ln|x| + C$
16) $6x^{\frac{3}{2}} + C$ 17) $5\ln|x| + C$ 18) $4\sin x + C$
19) $-\frac{7}{x^2} + C$ 20) $9\ln|x| + C$ 21) $2x^{\frac{3}{2}} + C$
22) $8x^{\frac{3}{2}} + C$ 23) $9\ln|x| + C$ 24) $2x^{\frac{3}{2}} + C$

Answer key

25) $7 \ln|x| + C$ 26) $-6 \cos x + C$ 27) $-\frac{6}{x^2} + C$

28) $5e^x + C$ 29) $5e^x + C$ 30) $4x^{\frac{3}{2}} + C$