$y(x)$	$\int y(x)dx$
$y = a$	$ax + c$
$y = ax$	$a\frac{x^2}{2} + c$
$y = ax^r (\mathrm{r} \neq -1)$	$\frac{ax^{r+1}}{r+1} + c$

Since integration is anti-differentiation (the reverse of differentiation) to integrate nx^{n-1} we reverse the steps made to achieve nx^{n-1}

Adding one to the power and bring it down to divide nx^{n-1}

$$\int x^n dx = \frac{x^{n+1}}{n+1} + c$$

$$\int (ax+b)^n dx = \frac{(ax+b)^{n+1}}{a(n+1)} + c$$

4.3 WORKED EXAMPLE

$\int 8x^3 - 6x dx$

4.4 WORKED EXAMPLE

$\int 4x^{\frac{2}{3}} + 2x^{\frac{4}{5}} dx$