

## - INTEGRATION

$$\frac{dy}{dx} = x^5$$

→  
Integrate

$$y = \frac{x^6}{6} + C$$

add one to the power  
divide by the new power

## - FIND 'C'

To find C you need a co-ordinate  
that the curve passes through.

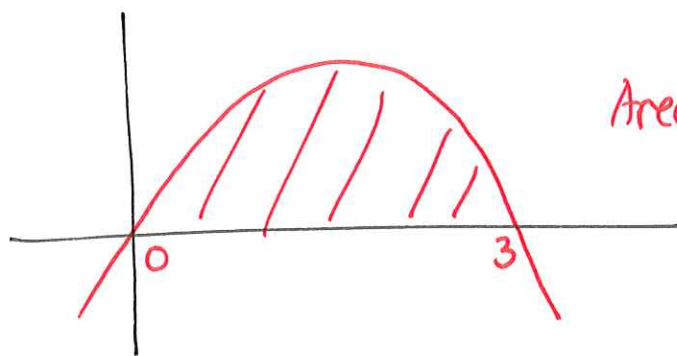
## - NOTATION

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

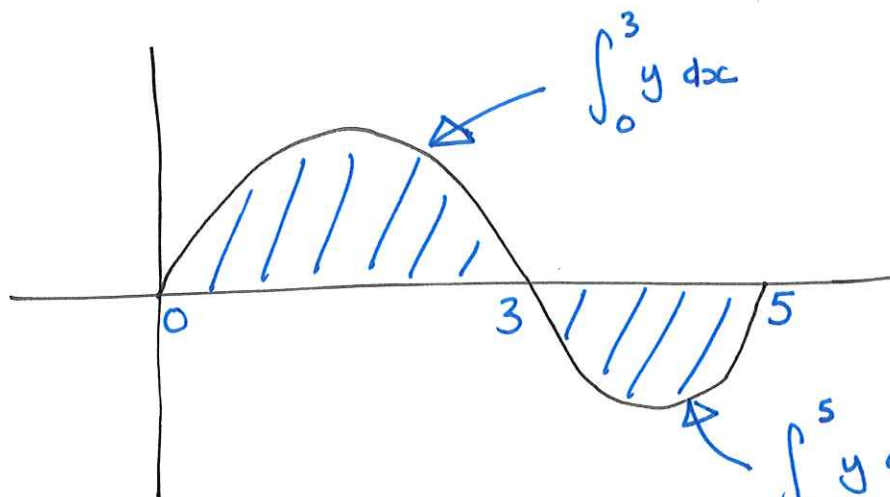
## - LIMITS

$$\begin{aligned} \int_1^2 3x^2 dx &= [x^3]_1^2 \\ &= (2^3) - (1^3) \\ &= 8 - 1 \\ &= 7 \end{aligned}$$

# - AREA UNDER A GRAPH



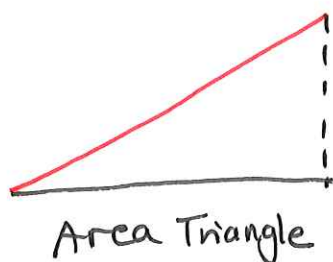
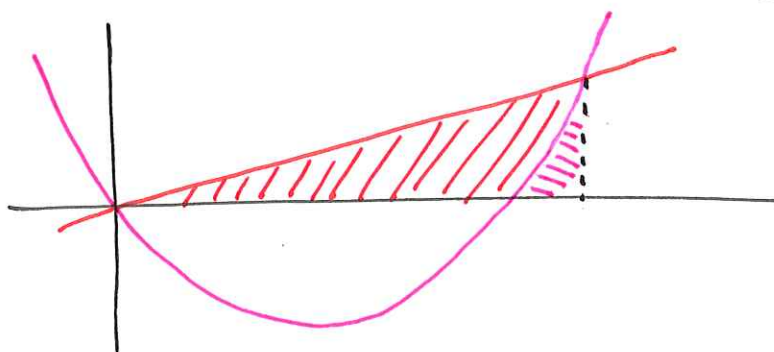
$$\text{Area} = \int_0^3 y \, dx$$



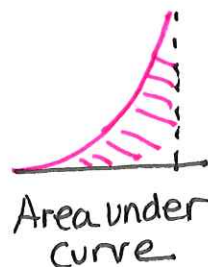
$$\int_0^3 y \, dx$$

$$\int_3^5 y \, dx$$

(Note: answer will be negative because below x axis. Just ignore the negative.)



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