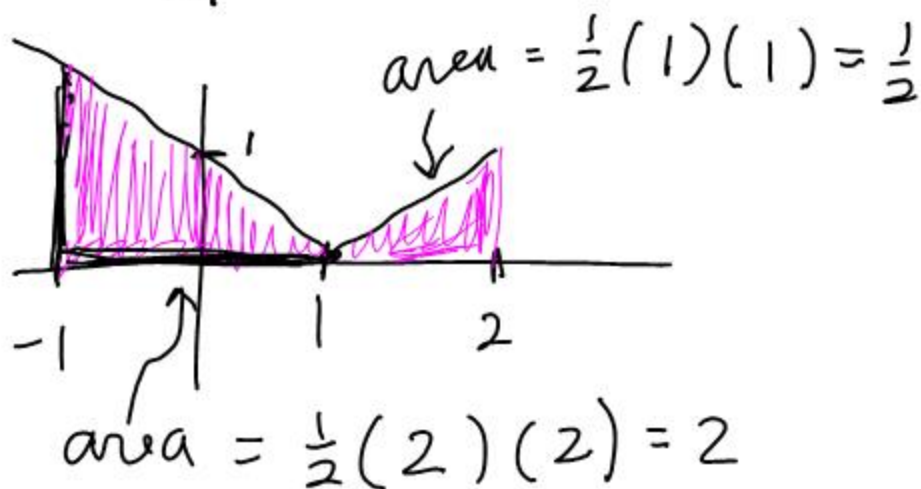


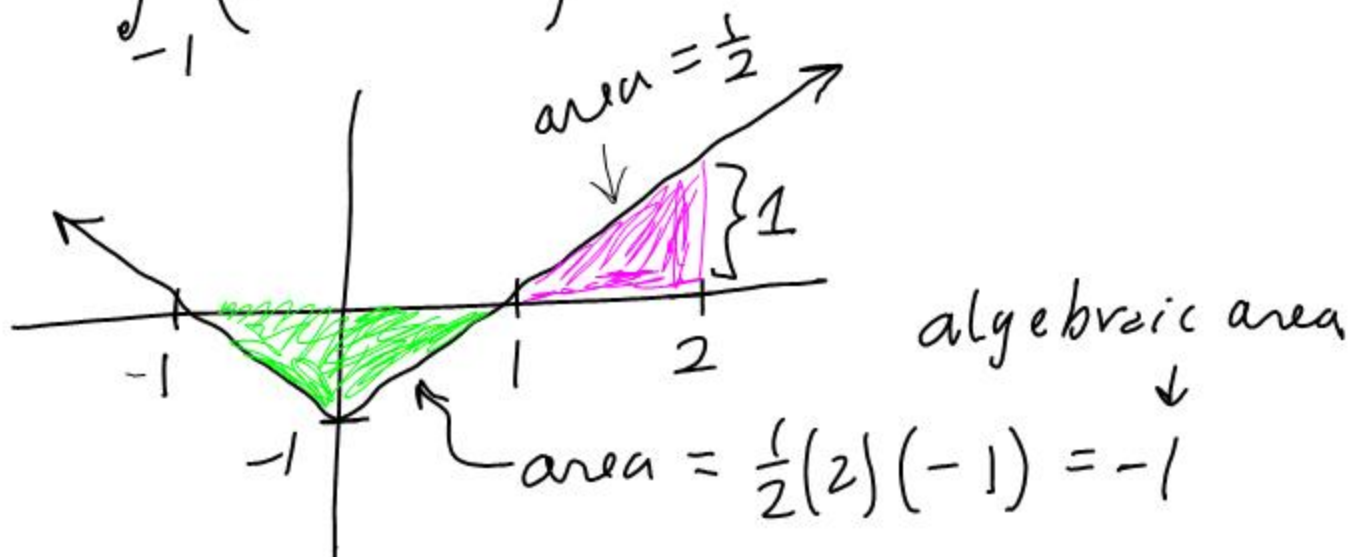
# Definite Integrals

Ex.  $\int_{-1}^2 |x-1| dx = 2 \cdot \frac{1}{2} = 2.5$



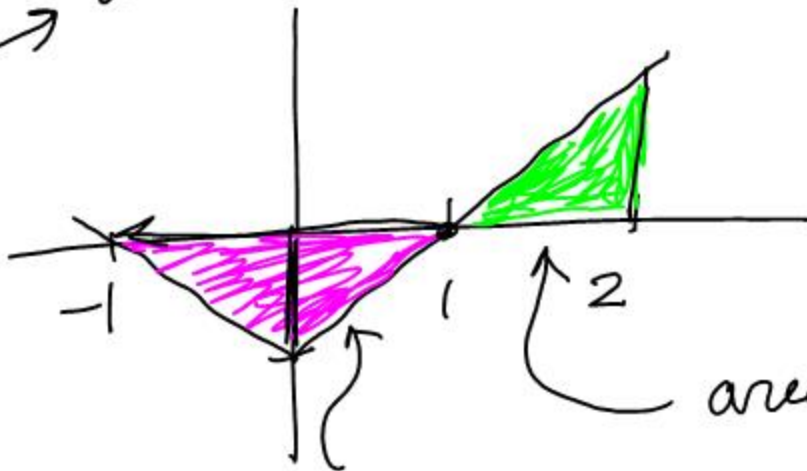
$\frac{d}{dx} [x^2] = 2x$   
↑  
the independent variable

Ex.  $\int_{-1}^2 (|x| - 1) dx = \frac{1}{2} + (-1) = -\frac{1}{2}$



Ex.  $\int_2^{-1} (|x| - 1) dx = -\frac{1}{2} + 1 = \frac{1}{2}$

Start here →

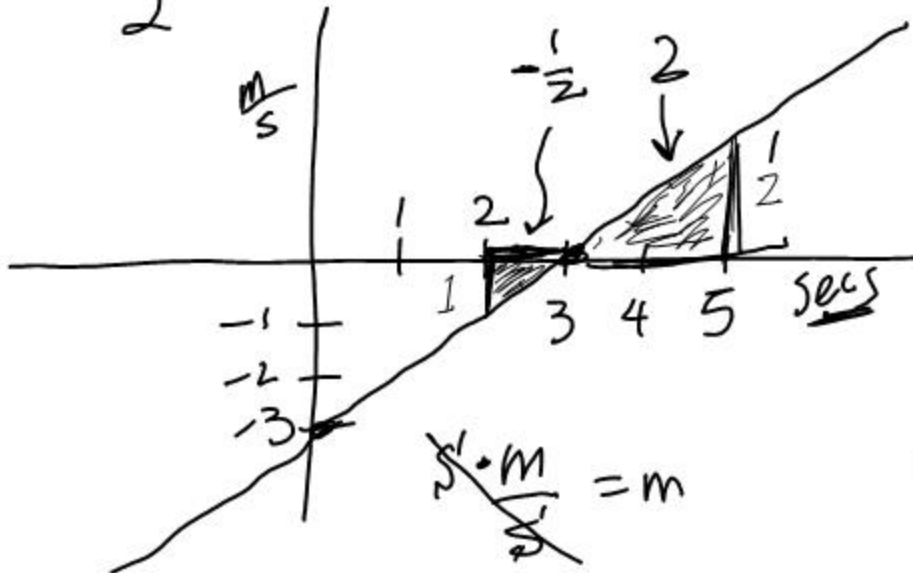


$$\text{area} = \frac{1}{2}(-1)(1)$$

$$\text{area} = \frac{1}{2}(-2)(-1) = -\frac{1}{2}$$

$$= +1$$

Ex  $\int_2^5 (x-3) dx = -\frac{1}{2} + 2 = 1.5$



velocity function  
 $v(t) = t - 3$

