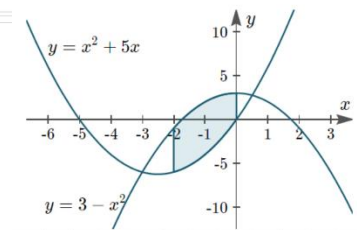


## Area bound by two functions Examples:

Ex.1

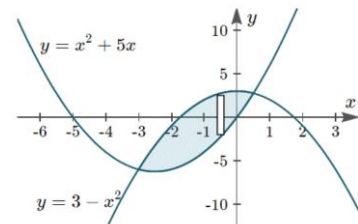
Find the area between the curves  $y = x^2 + 5x$  and  $y = 3 - x^2$  between  $x = -2$  and  $x = 0$ .



Ex.2

Find the area bounded by the curves

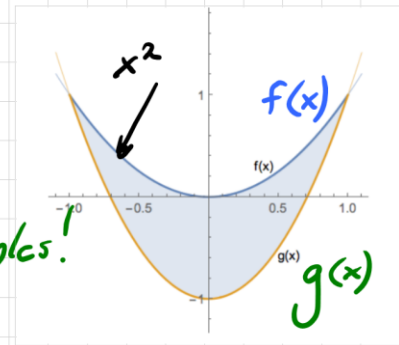
$$y = x^2 + 5x \text{ and } y = 3 - x^2.$$



EX.3

find the area between:

$$y = 2x^2 - 1 \text{ and } y = x^2$$



THIS IS NO DIFFERENT THEN PREVIOUS EXAMPLES!

JUST INTEGRATE  $\int \text{TOP} - \text{BOTTOM}$   
 $f(x) - g(x)$

EX.4

Determine the area of the region bounded by  $y = 2x^2 + 10$ ,  $y = 4x + 16$ ,  $x = -2$  and  $x = 5$ .

- THE OLD SWITCHEROO!
- SOMETIMES THE "UPPER" AND "LOWER" FUNCTIONS SWAP.

INTERCEPTS:

$$4x + 16 = 2x^2 + 10$$

