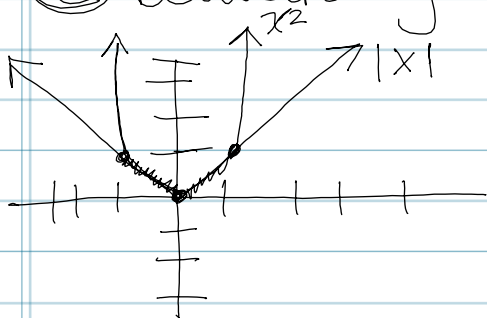


7.2 Hw Questions #13 and #19

⑬ Between $y = |x|$ and $y = x^2$ in $[-1, 1]$



$|x|$ (top curve)
 x^2 (bottom curve)


$$\int_{-1}^0 (|x| - x^2) dx + \int_0^1 (|x| - x^2) dx$$

If you cannot clearly see intersection points then set 2 equations equal to each other

Other option = $2 \int_0^1 (|x| - x^2) dx$
b/c. has 2 identical parts.

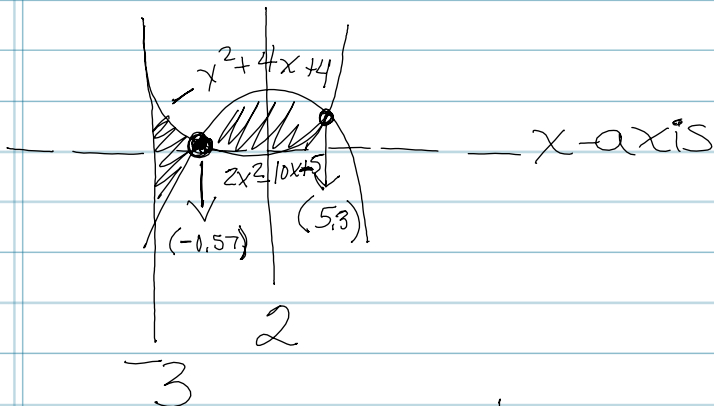
* ⑱ Between $y = 2x^2 - 10x - 5$ and $y = -x^2 + 4x + 4$ in $[-3, 2]$

* Use graphing in calculator to do set up.

Possibly:  and need to find areas they intersect.

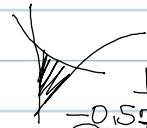
- 2nd Trace ; #5 (intersect); get close to left point

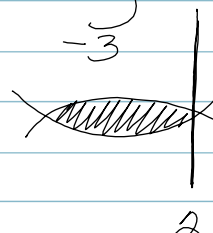
1st intersect @ $(-0.573, 1.3817)$
2nd intersect @ $(5.2393, -2.492844)$

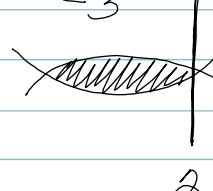


$$U = 2x^2 - 10x - 5$$

$$N = -x^2 + 4x + 4$$

1st integral is  this piece, so ~~$\int_{-0.57}^2 (-x^2 + 4x + 4) - (2x^2 - 10x - 5) dx$~~

2nd integral is  $\int_{-3}^2 (2x^2 - 10x - 5) - (-x^2 + 4x + 4) dx = A$

2nd integral is  $\int_{-0.57}^2 (-x^2 + 4x + 4) - (2x^2 - 10x - 5) dx = B$

Total area = A + B

$$1st \int_{-3}^{-0.57} (2x^2 - 10x - 5) - (-x^2 + 4x + 4) dx + \int_{-0.57}^2 (-x^2 + 4x + 4) - (2x^2 - 10x - 5) dx$$