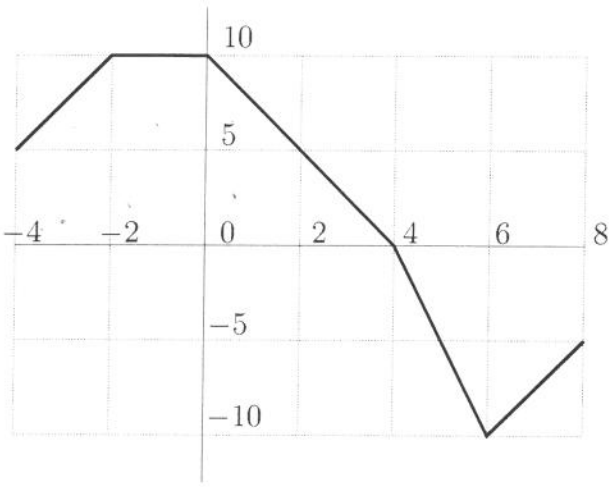
Mathematics 122

Quiz 31 Name:_____

You must show your work to get full credit.



1. For the function with graph given above compute the following (and remember that area below the x-axis counts as negative when computing an integral):

Each box is 10. Between $x=-4$ and $x=1$ there are 5 boxes all above the axis. $5 \times 10 = 50$

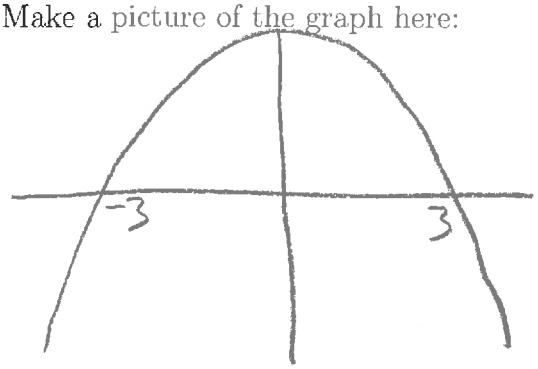
$$\int_{-4}^{1} f(t)\,dt = \underline{50}$$

Between $x=0$ and $x=8$ there are 2 positive boxes 2.5 negative boxes so $10(2-2.5) = -5$

$$\int_{0}^{8} f(t)\,dt = \underline{-5}$$

2. Use your calculator to graph the function $y = 9 - x^2$ for $-4 \le x \le 4$.

(a) Make a picture of the graph here:



(b) What is the area under the graph and over the x-axis for $-3 \le x \le 3$. Be sure to write down how you used the calculator to compute this.

2nd calc 7: $\int f(x)dx$
Lower limit -3
upper limit 3

$\int f(x)dx = 36$

The ares is 36