Name.....

UID.....

Math 1210-3

Quiz 2

January 18, 2008

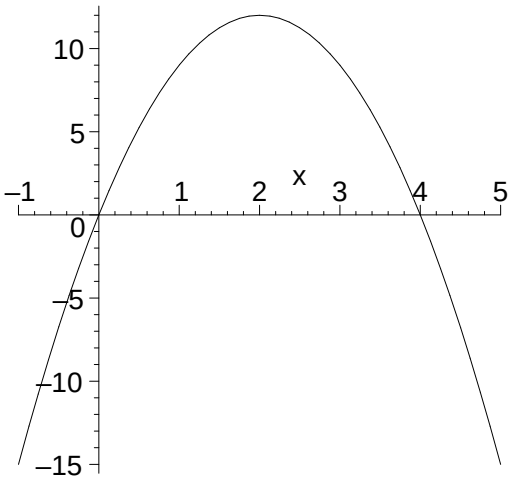
Show all work for complete credit! Every question below relates to the function $f(x) = -3x^2 + 12x$. There are questions on both sides of the paper!

1a) Compute the derivative $f'(x)$.

(1 point)

1b) What is the value of $f'(0)$ and what does it have to do with the graph $y = -3x^2 + 12x$ sketched below?

(2 points)



1c) Compute $\int -3x^2 + 12x\,dx$.

(2 points)

1d) Compute $\int_0^4 -3x^2 + 12x\,dx$.

(1 point)

1e) What does the number you just computed in (1d) have to do with the graph $y = -3x^2 + 12x$ sketched above?

(1 point)

1f) An object is moving along a number line with velocity $v = -3t^2 + 12t$ feet per second, at time t seconds. What is its acceleration at time $t = 0$? Include correct units!

(1 point)

1g) If the object in (1f) is at position $s(0) = 3$ feet initially, then where is located when $t = 4$ seconds ?

(2 points)