Cal 2

$v(t) = 2t^2 - 8t + 6 \quad (mi/h) \quad 0 \le t \le 3$

a) $v(t) = 2t^2 - 8t + 6 = 0$

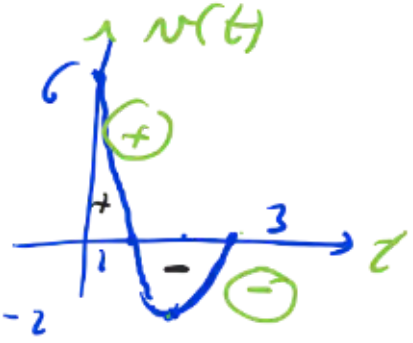
$t = 1, 3$

$a + b + c = 0$
$x = 1, \ c/a$

$a - b + c = 0$
$x = -1, \ -c/a$

$v' = 4t - 8 = 0$

$t = \frac{8}{4}$



$D = \int_0^1 (2t^2 - 8t + 6)\,dt$

$= \frac{2}{3}t^3 - 4t^2 + 6t \Big|_0^1$

$= \frac{2}{3} - 4 + 6$

$= \frac{2}{3} + 2$

$= \frac{8}{3} \ mi$

$D = \int_1^3 (2t^2 - 8t + 6)\,dt$

$= \frac{2}{3}t^3 - 4t^2 + 6t \Big|_1^3$

$= 18 - 36 + 18 - \frac{8}{3}$

$\frac{2}{3}3^{3-1}$

$(\frac{2}{3} - 8 + 6)$

$= \frac{-\delta}{3}$

Total displacement $= \frac{\delta}{3} - \frac{\delta}{3} = 0$

Distance $= 0, (-)$ ~~#~~ wrong

L, V, A, S,

$$\text{Distance} = \int_0^1 |v(t)|\,dt + \int_1^3 |v(t)|\,dt$$

$$= \frac{\delta}{3} + \left|\frac{-\delta}{3}\right|$$

$$= 2\left(\frac{\delta}{3}\right)$$

$$= \frac{16}{3} \text{ mi}$$

mi ≠ m

$$= \frac{\delta}{3} + |(18 - 36 + 18 - \frac{\delta}{3})|$$

$$= \frac{\delta}{3} + \left|\left(-\frac{\delta}{3}\right)\right|$$

$$= \frac{16}{3}$$

$$D = \int_0^1 (2t^2 - 8t + 6)\,dt - \int_1^3 (2t^2 - 8t + 6)\,dt$$

x-int. $t = 1, 3$