Clint M. Ardales
CPE - 201 CA3

(1.)

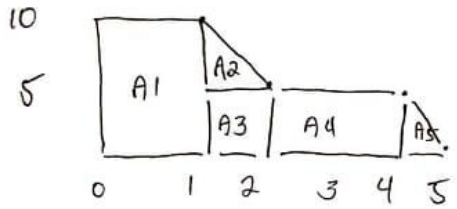
Amount of charge represented by 4,000,000 protons

$= 4{,}000{,}000C \times 1.602 \times 10^{-19}$

$\boxed{= 6.408 \times 10^{-13}}$

(2.)

i (A)



charge = current x time

A1 = (10A)(1s) = q = 10C

A2 = (1/2)(5A)(1s) = q = 2.5C

A3 = (5A)(1s) = q = 5C

A4 = (5A)(2s) = q = 10C

A5 = (1/2)(5A)(1s) = q = 2.5C

A1 + A2+A3+A4 + A5

= 10C + 2.5C + 5C + 10C + 2.5C

$\boxed{q_t = 30C}$