(4 pts) #1 A camcorder battery is rated at 6 V with 1 Ah (Amp-hour) capacity.

(2 pts) a) how many coulombs of charge are stored in the battery when fully charged?

(2 pts) b) the camcorder consumes 500 mA of current from the battery. How long will it run assuming the battery is initially at full charge?

a) \( 1 \text{ A} = 1 \text{ C/sec} \) \( 1 \text{ hr} = 60 \text{ min} = 3600 \text{ sec} \)
\[
I = \frac{q}{t} \quad \Rightarrow \quad q = \frac{3600 \text{ Coulombs}}{}
\]

b) \( 500 \text{ mA} = 0.5 \text{ A} \)
\[
t = \frac{1 \text{ Ah}}{0.5 \text{ A}} = 2 \text{ hours}
\]