

52. (a) We refer to problem 34, part (c). The power delivered by the generator at this instant is  $P = \mathcal{E}(t)i(t) = \mathcal{E}_m \sin(2n\pi - \pi/6)I \sin(\pi/3) = -\mathcal{E}_m I \sin(\pi/6) \sin(\pi/3)$ . This is less than zero, so it is taking energy from the rest of the circuit.
- (b) We refer to problem 36, part (c). The power delivered by the generator at this instant is  $P = \mathcal{E}(t)i(t) = \mathcal{E}_m \sin(2n\pi - \pi/6)I \sin(-2\pi/3) = \mathcal{E}_m I \sin(\pi/6) \sin(2\pi/3)$ . Since this is positive, it is supplying energy to the rest of the system.