

16. (a) Since the percentage of energy stored in the electric field of the capacitor is  $(1 - 75.0\%) = 25.0\%$ , then

$$\frac{U_E}{U} = \frac{q^2/2C}{Q^2/2C} = 25.0\%$$

which leads to  $q = \sqrt{0.250} Q = 0.500Q$ .

- (b) From

$$\frac{U_B}{U} = \frac{Li^2/2}{LI^2/2} = 75.0\% ,$$

we find  $i = \sqrt{0.750} I = 0.866I$ .