

In Figure 7.1 (p.323 of your textbook), assume the following values:  
 $V = 4 \text{ kV}$ ,  $X = 3 \Omega$ ,  $R = 1 \Omega$ , and  $\omega = 2\pi 60 \text{ rad/sec}$ . Calculate the following three currents: the rms symmetrical fault current, the rms asymmetrical fault current at the instant the switch closes (assuming maximum dc offset), and the rms asymmetrical fault current 5 cycles after the switch closes (assuming maximum dc offset).

a.

$$I_{sc} = 1,065 \text{ A}, I_{rms}(0) = 1,191 \text{ A}, I_{rms}(5) = 1,065 \text{ A}$$

b.

$$I_{sc} = 1,365 \text{ A}, I_{rms}(0) = 2,291 \text{ A}, I_{rms}(5) = 1,365 \text{ A}$$

c.

$$I_{sc} = 1,565 \text{ A}, I_{rms}(0) = 3,191 \text{ A}, I_{rms}(5) = 1,565 \text{ A}$$

d.

$$I_{sc} = 1,265 \text{ A}, I_{rms}(0) = 2,191 \text{ A}, I_{rms}(5) = 1,265 \text{ A}$$