a) $$\underline{I} = \frac{\underline{U}}{\underline{Z}_1 + \underline{Z}_2}$$

$$\underline{I} = \frac{220\sqrt{2} \cdot e^{j0°}}{20 - j10} =$$

$$= \frac{220\sqrt{2}\,(20 + j10)}{400 + 100} \approx$$

$$= 8{,}8\sqrt{2} + j\,4{,}4\sqrt{2} \quad A$$

$$\underline{I} \approx 9{,}8\sqrt{2}\, e^{j27°}$$

b) $$\arg \underline{U}_1 = \arg \underline{Z}_1 \underline{I} = \arg \underline{Z}_1 + \arg \underline{I}$$

$$\arg \underline{U}_2 = \arg \underline{Z}_2 \underline{I} = \arg \underline{Z}_2 + \arg \underline{I}$$

$$\rightarrow \arg \underline{U}_1 - \arg \underline{U}_2 = \arg \underline{Z}_1 - \arg \underline{Z}_2 =$$

$$= \arg \frac{\underline{Z}_1}{\underline{Z}_2}$$

$$\frac{\underline{Z}_1}{\underline{Z}_2} = \frac{8{,}0 + j6{,}0}{12 - j16} = \frac{(8{,}0 + j6{,}0)(12 + j16)}{(12 - j16)(12 + j16)} =$$

$$= \frac{96 + j128 + j72 - 96}{400} = j0{,}50$$

$$\arg(j0{,}50) = 90^\circ$$

Alltså $\arg \frac{\underline{Z}_1}{\underline{Z}_2} = \arg \underline{U}_1 - \arg \underline{U}_2 = \underline{90^\circ}$