



$$V_{L1} = 415 \times \left( \frac{(35 + j35.70714214)(j6)}{35 + j35.70714214 + j6} \right) \bigg/ \left( j4 + \frac{(35 + j35.70714214)(j6)}{35 + j35.70714214 + j6} \right)$$

$$= 415 \times \left( \frac{-214.24285284 + j210}{35 + j41.70714214} \right) \bigg/ \left( j4 + \frac{(35 + j35.70714214)(j6)}{35 + j41.70714214} \right)$$

$$= 415 \times \left( \frac{0.425031565397 + j5.4935185168}{j4 + \frac{(35 + j35.70714214)(j6)}{35 + j41.70714214}} \right)$$

$$= 415 \times \left( \frac{0.425031565397 + j5.4935185168}{0.425031565397 + j9.4935185168} \right)$$

$$= 415 (0.579502755949 - j0.0188259602136)$$

$$V_{L1} = 240.493643719 - j7.81277348864$$

$$I_{L1} = \frac{240.493643719 - j7.81277348864}{35 + j35.70714214}$$

$$= 3.25532228693 - j3.54431511713$$

$$V_{L2} = -j415 \times \left( \frac{(35 + j35.70714214)(j4)}{35 + j35.70714214 + j4} \right) \bigg/ \left( j6 + \frac{(35 + j35.70714214)(j4)}{35 + j35.70714214 + j4} \right)$$

$$= -j415 \times \left( \frac{-142.82856856 + j140}{35 + j39.70714214} \right) \bigg/ \left( j6 + \frac{(35 + j35.70714214)(j4)}{35 + j39.70714214} \right)$$

$$= -j415 \times \left( \frac{0.199881703089 + j3.77323625155}{j6 + \frac{(35 + j35.70714214)(j4)}{35 + j39.70714214}} \right)$$

$$= -j415 \times \left( \frac{0.199881703089 + j3.77323625155}{0.199881703089 + j9.77323625155} \right)$$

$$= -j415 (0.386335170633 - j0.0125506401424)$$

$$= -5.20851586591 - j160.329095813$$

$$I_{L2} = \frac{-5.20851586591 - j160.329095813}{35 + j35.70714214}$$

$$= -2.36287674476 - j2.17021485196$$