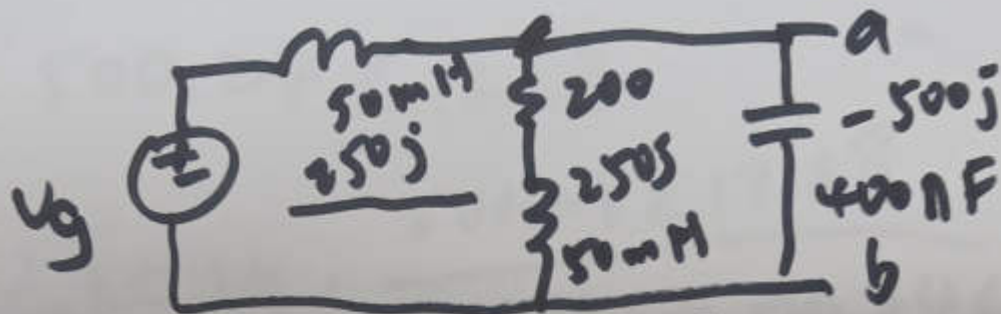


$$\boxed{9.43}$$

$$250 \angle 90^\circ$$



$$\frac{1}{j\omega L} = \frac{-j}{\omega L}$$

$$v_g = 22.36 \cos(5000t + 26.565^\circ)$$

$$= 22.36 \angle 26.565^\circ$$

$$Z_{eq} = (200 + 250j) \parallel (-500j)$$

$$= \frac{(200 + 250j)(-500j)}{250j + 200 - 500j}$$

$$= \frac{(200 + 250j)(-5j)}{2 - 2.5j} = \frac{-1000j + 1250}{2 - 2.5j}$$

$$= \frac{1600.78 \angle -38.66^\circ}{3.2 \angle -51.94^\circ}$$

①

$$= 500.24 \angle 12.68$$

$$V_{ab} = V_g \cdot \frac{500.24 \angle 12.68}{250 \angle 90 + 500.24 \angle 12.68}$$

$$= \frac{22.36 \angle 26.565 \cdot 500.24 \angle 12.68}{250 \angle 90 + 500.24 \angle 12.68}$$

$$= \frac{11185.37 \angle 39.245}{606.34 \angle 36.3740}$$

$$= 18.45 \angle 2.845$$

(2)