(6) $V_{eff} = 100V$, $f = 60Hz$

$\Rightarrow \omega = 2\pi f = 120\pi \frac{rad}{s}$

$Z = 10\Omega$, $X_L = 8\Omega$

(a) $I_{eff} \cdot Z = V_{eff} \Rightarrow \boxed{I_{eff} = \frac{V_{eff}}{Z} = 10A}$

(b) $\tan\delta = \frac{X_L}{R} \overset{\circledast}{=} \frac{8\Omega}{6\Omega} = 4/3$

$Z = 10\Omega = \sqrt{X_L^2 + R^2} \rightarrow 100 = X_L^2 + R^2$

$\rightarrow R = \sqrt{100 - X_L^2} = 6\Omega$

$\Rightarrow \boxed{\delta = \tan^{-1}(4/3) = \underline{53,13^\circ}}$ $\overset{\circledast}{}$ destore.