

Problem 2.49 Use the Smith chart to find the normalized load impedance corresponding to a reflection coefficient of

- (a) $\Gamma = 0.5$
- (b) $\Gamma = 0.5 \angle 60^\circ$
- (c) $\Gamma = -1$
- (d) $\Gamma = 0.3 \angle -30^\circ$
- (e) $\Gamma = 0$
- (f) $\Gamma = j$

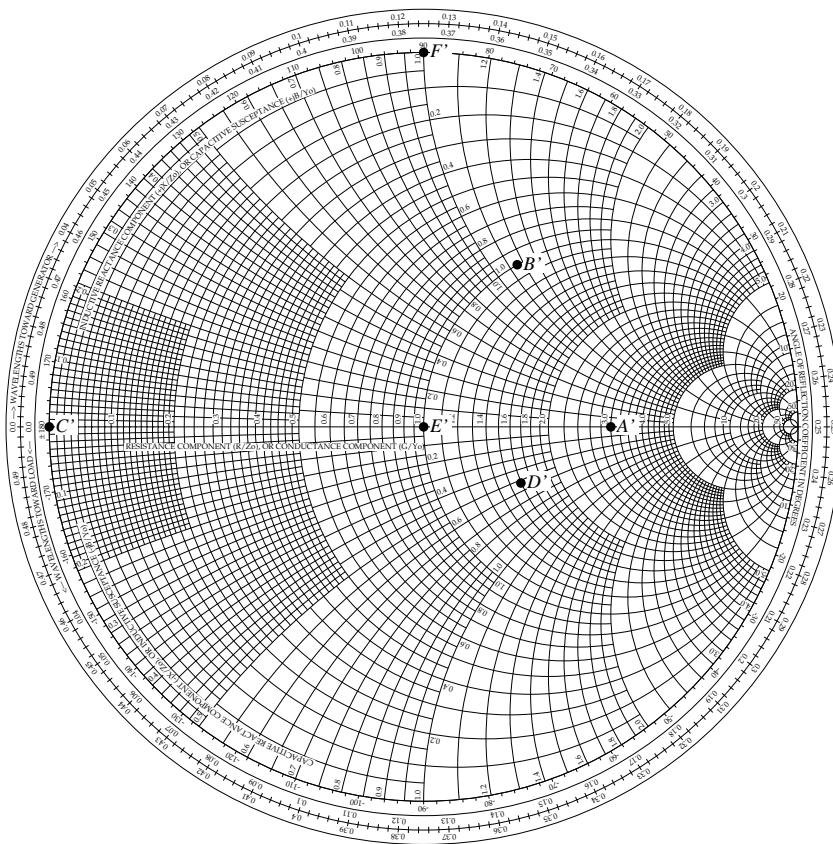


Figure P2.49: Solution of Problem 2.49.

Solution: Refer to Fig. P2.49.

- (a) Point A' is $\Gamma = 0.5$ at $z_L = 3 + j0$.
 - (b) Point B' is $\Gamma = 0.5e^{j60^\circ}$ at $z_L = 1 + j1.15$.
 - (c) Point C' is $\Gamma = -1$ at $z_L = 0 + j0$.
 - (d) Point D' is $\Gamma = 0.3e^{-j30^\circ}$ at $z_L = 1.60 - j0.53$.
 - (e) Point E' is $\Gamma = 0$ at $z_L = 1 + j0$.
 - (f) Point F' is $\Gamma = j$ at $z_L = 0 + j1$.
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