

2.48 Use the Smith chart to find the reflection coefficient corresponding to a load impedance of

- (a) $Z_L = 3Z_0$
- (b) $Z_L = (2 - j2)Z_0$
- (c) $Z_L = -j2Z_0$
- (d) $Z_L = 0$ (short circuit)

Solution: Refer to Fig. P2.48.

- (a) Point *A* is $z_L = 3 + j0$. $\Gamma = 0.5 \exp 0^\circ$
- (b) Point *B* is $z_L = 2 - j2$. $\Gamma = 0.62 \exp -29.7^\circ$
- (c) Point *C* is $z_L = 0 - j2$. $\Gamma = 1.0 \exp -53.1^\circ$
- (d) Point *D* is $z_L = 0 + j0$. $\Gamma = 1.0 \exp 180.0^\circ$

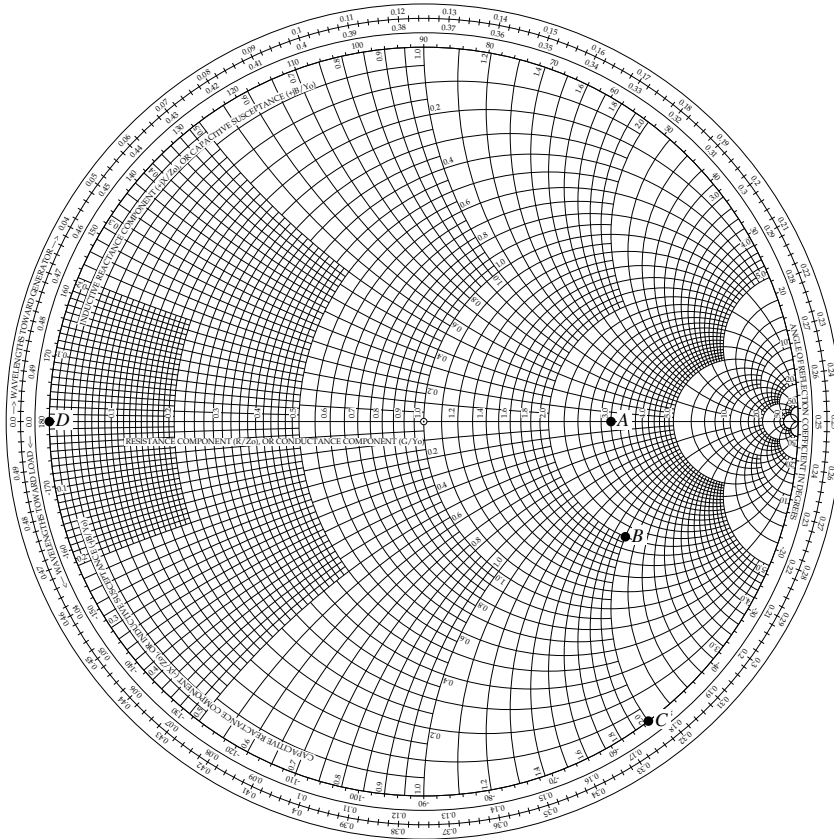


Figure P2.48: Solution of Problem 2.48.