1. On a lossless 50-Ω transmission line terminated with a $Z_L = 100-j100$ Ω. If this transmission line is be matched to the load using a shorted load stub. Determine the stub length and distance between the load and stub. Two possible answers. You only need to show one of them
2. On a lossless 50-Ω transmission line terminated with a $Z_L = 100 + j100$ Ω. If this transmission line is be matched to the load using a open circuit transmission line. Determine the stub length and distance between the load and stub. Two possible answers. You only need to show one of them.

\[
d = 0.18 \lambda - (0.5 - 0.458) \lambda
\]

\[
L = 0.338 \lambda - 0.0 \lambda
\]