(a) 48.934°

Stage 1: $48.934° - 45° = 3.934°$ (CW)

Stage 2: $3.934° - 22.5° = -18.566°$ (CW)

Stage 3: $-18.566° + 11.25° = -7.316°$ (CCW)

Stage 4: $-7.316° + 5.625° = -1.691°$ (CCW)

Stage 5: $-1.691° + 2.8125° = 1.1215°$ (CCW)

Stage 6: $1.1215° - 1.4062° = -0.2847°$ (CW)

Stage 7: $-0.2847° + 0.7031° = 0.4184°$ (CCW)

Stage 8: $0.4184° - 0.3515° = 0.0669°$ (CW)

Stage 9: $0.0669° - 0.1751° = -0.1082°$ (CW)

Stage 10: $-0.1082° + 0.0878° = -0.0204°$ (CCW)

Stage 11: $-0.0204° + 0.0439° = 0.0235°$ (CCW)

Stage 12: $0.0235° - 0.0219° = 0.0016°$ (CW)

Stage 13: $0.0016° - 0.0109° = -0.0093°$ (CW)

Stage 14: $-0.0093° + 0.0054° = -0.0039°$ (CCW)

Stage 15: $-0.0039° + 0.0027° = -0.0012°$ (CCW)

Stage 16: $-0.0012° + 0.0013° = 0.0001°$ (CCW)

Result $= 48.9339°$

Compute error $= 0.0001°$