If $P\_{1}(r\_{1},θ\_{1})$ and $P\_{2}(r\_{2},θ\_{2})$ are two points in the polar plane, then their mid-point is given by

 $d=\sqrt{r\_{1}^{2}+r\_{2}^{2}-2r\_{1}r\_{2}cos\left(θ\_{1}-θ\_{2}\right)}$

If $P\_{1}(r\_{1},θ\_{1})$ and $P\_{2}(r\_{2},θ\_{2})$ are two points in the polar plane, then their mid-point is given by $\left(\frac{r\_{1}cosθ\_{1}+r\_{2}cosθ\_{2}}{2},\frac{r\_{1}sinθ\_{1}+r\_{2}sinθ\_{2}}{2}\right)$