

10. $(-4, 5\pi/4), (7, 9\pi/\pi)$

$$|P_1 P_2| = \sqrt{r_1^2 + r_2^2 - 2r_1 r_2 \cdot \cos(\theta_2 - \theta_1)}$$

$$= \sqrt{(-4)^2 + 7^2 - 2 \cdot (-4) \cdot 7 \cdot \cos(-9\pi/12 - 5\pi/9)}$$

$$= \sqrt{16 + 49 - 56 \cdot \cos(-\pi/2)}$$

$$= \sqrt{65 - 56 \cdot 0}$$

$$|P_1 P_2| = 65$$

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