$$t = \frac{3\pi}{4} \mapsto (-2\sqrt{2} - 1, 2\sqrt{2})$$

$$t = \pi \mapsto (-4, 1)$$

$$t = 0 \mapsto (4, 1)$$

$$t = \frac{5\pi}{4} \mapsto (-2\sqrt{2} + 1, 2\sqrt{2})$$

$$t = \frac{3\pi}{4} \mapsto (2\sqrt{2} + 1, 2\sqrt{2})$$

$$t = \frac{7\pi}{4} \mapsto (2\sqrt{2} - 1, 2\sqrt{2})$$

$$t = \frac{3\pi}{4} \mapsto (0, -5)$$