1.3 #7

$(x_1, y_1)$     $(x_2, y_2)$

$\left(\dfrac{\pi}{4}, 2\right), \left(\dfrac{\pi}{2}, 0\right)$

$D = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

$= \sqrt{\left(\dfrac{\pi}{2} - \dfrac{\pi}{4}\right)^2 + (0 - 2)^2}$

$= \sqrt{\left(\dfrac{\pi}{4}\right)^2 + (-2)^2}$

$= \sqrt{\dfrac{\pi^2}{16} + 4}$

$= \dfrac{\sqrt{\pi^2 + 64}}{\sqrt{16}}$

$\Longleftrightarrow = \sqrt{\dfrac{\pi^2 + 64}{16}}$

$\quad\quad\quad\quad \sqrt{\dfrac{\pi^2}{16} + \dfrac{4}{1} \cdot \dfrac{16}{16}}$

$= \dfrac{\sqrt{\pi^2 + 64}}{4}$

$Mid = \left(\dfrac{x_1 + y}{2}, \dfrac{y_1 + y}{2}\right)$

$= \left(\dfrac{\frac{\pi}{4} + \frac{\pi}{2}}{2}, \dfrac{2 + 0}{2}\right)$

$= \left(\dfrac{\frac{3\pi}{4}}{2}, 1\right)$

$= \left(\dfrac{3\pi}{8}, 1\right)$

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