$\rightsquigarrow$ 4 possible points:

$$\left(\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}\right), \left(\frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}}\right)$$

$$\left(-\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}\right), \left(-\frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}}\right)$$

- note that in each case we have a solution for λ. λ is either $1/2$ or $3/2$.

$$f\left(\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}\right) = \frac{3}{2} = f\left(-\frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}}\right)$$

$$f\left(-\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}\right) = \frac{1}{2} = f\left(\frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}}\right)$$

} ← from Boundary points

Also, $f(0,0) = 0$ ← from the critical point

- Absolute maximum value of $f = \frac{3}{2}$, attained at

$\left(\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}\right)$ and $\left(-\frac{1}{\sqrt{2}}, -1/\sqrt{2}\right)$

- Absolute minimum value of $f = 0$, attained at $(0,0)$