$\boxed{9}$

The Convex Conjugate of L1-norm is

$$f^*(y) = \begin{cases} 0 & |y| < 1 \\ \infty & \text{otherwise} \end{cases}$$

$$\therefore f(x) = |x| = f^{**}(y) = \max_{y \in R^n} x^T y - f^*(y) = \max_{|y|<1} x^T y$$

Adding $-\sum_{i=1}^{n} 1 - \sqrt{1-y_i^2}$

$$h(x) = \max_{|y|<1} \sum x_i y_i - \sum 1 - \sqrt{1-y_i^2}$$

$$\frac{\partial}{\partial y_i} \sum x_i y_i - \sum 1 - \sqrt{1-y_i^2} = x_i - \frac{y_i}{\sqrt{1+y_i^2}}$$

$$\frac{\partial}{\partial y_i} = 0 \longrightarrow x_i = \frac{y_i}{\sqrt{1+y_i^2}} \longrightarrow y = \frac{x_i}{\sqrt{1+x_i^2}}$$

$$\therefore h(x) = \sum \frac{x_i^2}{\sqrt{1+x_i^2}} + \sqrt{1 - \frac{x_i^2}{1+x_i^2}} - 1$$

$$= \sum \frac{x_i^2}{\sqrt{x_i^2+1}} + \frac{1 - \frac{x_i^2}{x_i^2+1}}{\sqrt{1 - \frac{x_i^2}{x_i^2+1}}} - 1$$

$$= \sum \frac{x_i^2}{\sqrt{x_i^2+1}} + \frac{1}{(x_i^2+1)\sqrt{1 - \frac{x_i^2}{x_i^2+1}}} - 1 \longrightarrow \sqrt{(x_i^2+1)^2 - x_i^2(x_i^2+1)}$$

$$= \sqrt{x_i^4 + 2x_i^2 + 1 - x_i^2 - x_i^4}$$

$$= \sum \frac{x_i^2}{\sqrt{x_i^2+1}} + \frac{1}{\sqrt{x_i^2+1}} - 1 \qquad = \sqrt{x_i^2+1}$$

$$\boxed{\therefore h(x) = \sum_{i=1}^{n} \sqrt{x_i^2+1} - 1}$$