

$$f(x) = \sqrt{100 + x^2} - x, x > 0$$

Having found the derivatives, we found critical points.

$$f'(x) = \frac{x}{\sqrt{100 + x^2}} - 1 = \frac{x - \sqrt{100 + x^2}}{\sqrt{100 + x^2}} = 0$$

$$x - \sqrt{100 + x^2} = 0$$

$$x = \sqrt{100 + x^2}$$

$$x^2 = 100 + x^2$$

This equation has no solutions.

Hence, this function is strongly monotonous, because $x - \sqrt{100 + x^2} < 0$

This function is monotonous; consequently it has no extreme points on domain.

It is left only to check boundary points.

$$f(0) = 10$$

$$\lim_{x \rightarrow \infty} f(x) = x - x = 0$$

So, maximum value reached at $x=0$, minimum value reached at $x=\infty$