

MATH 210: 8-30 WORKSHEET

- (1) For the following functions, determine their domains, ranges, on which interval(s) they are increasing/decreasing, and whether they are concave up or concave down. [Hint: first sketch a graph!]

$$a(x) = (x - 1)^2 - 2$$

$$b(x) = e^{-x}$$

- (2) Find the inverse of $f(x) = \sqrt[4]{x+1}$. What is the domain of $f^{-1}(x)$?
- (3) Find all zeroes of the trigonometric function $t(x) = 2\sin x + 1$. [Hint: there are infinitely many!]