

MATH 1200 QUIZ #1

1. SEC 2.1 #21. $x + y^3 = 8$

$y^3 = 8 - x$

$y = \sqrt[3]{8-x}$

y IS A FUNCTION OF x

2. SEC 2.1 #33. $f(t) = \sqrt{t+6} + 3$

a) $f(-6) = \sqrt{-6+6} + 3 = 0 + 3 = 3$

b) $f(10) = \sqrt{10+6} + 3 = \sqrt{16} + 3 = 4 + 3 = 7$

c) $f(x-6) = \sqrt{x-6+6} + 3 = \sqrt{x} + 3$

3. SEC 2.1 #75. $g(x) = 1$, WHEN $x = -2$

4. SEC 2.2 #13.

a) RELATIVE MAXIMUM OF 4 AT $x = 0$

b) " MINIMUM OF 0 AT $x = -3$ AND 3

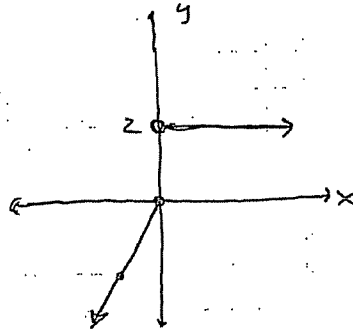
5. SEC 2.2 #35. a) $D_f: x \in (-\infty, 3]$

b) $R_f: y \in (-\infty, 4]$

c) ZEROS $x_{\text{INTERCEPTS}} = -3$ AND 3

6. SEC 2.2 #45. $f(x) = \begin{cases} 2x & \text{IF } x \leq 0 \\ 2 & \text{IF } x > 0 \end{cases}$

$R_f = y \in (-\infty, 0] \cup \{2\}$



7. SEC 2.2 #61 $f(x) = x^2 - 4x + 3$

$\frac{f(x+h) - f(x)}{h} \rightarrow \frac{(x+h)^2 - 4(x+h) + 3 - (x^2 - 4x + 3)}{h}$

~~$\frac{x^2 + 2xh + h^2 - 4x - 4h + 3 - x^2 + 4x - 3}{h}$~~

$\frac{2xh + h^2 - 4h}{h} \rightarrow 2x + h - 4$