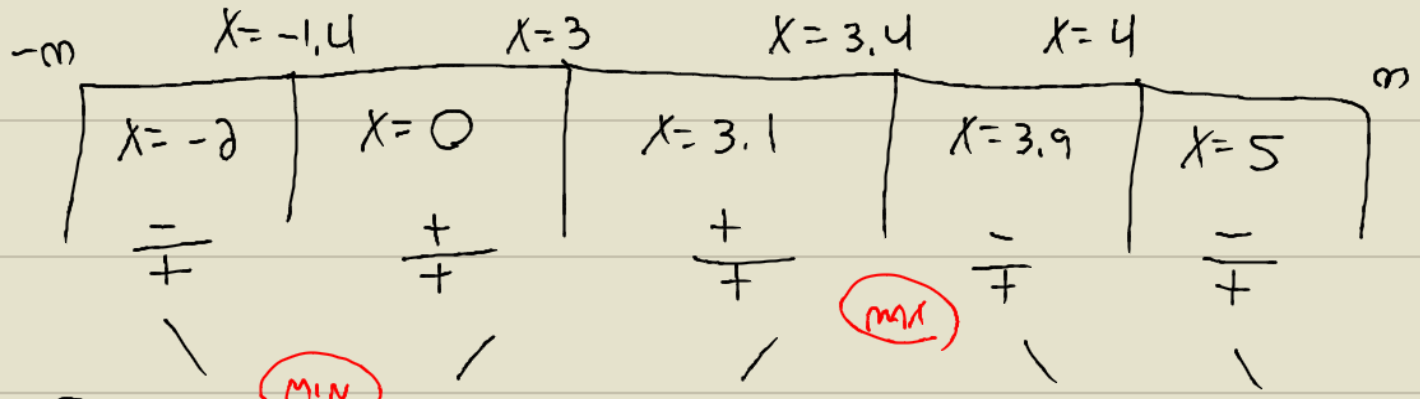
6. (cont.)

$$y' = \frac{-x^2+2x+5}{(x^2-7x+12)^2}$$




DEC $(-\infty, -1.4)$ DEC $(3.4, 4)$

INC $(-1.4, 3)$ DEC $(4, \infty)$

INC $(3, 3.4)$

MIN $(-1.4, -0.1)$

MAX $(3.4, -10)$

MIN: $1-\sqrt{6} = x$

$$y = \frac{x-1}{x^2-7x+12}$$

$$y = \frac{1-\sqrt{6}-1}{(1-\sqrt{6})^2-7(1-\sqrt{6})+12}$$

$$y = \frac{-\sqrt{6}}{1-2\sqrt{6}+6-7+7\sqrt{6}+12}$$

$$y = \frac{-\sqrt{6}}{5\sqrt{6}+12} \cdot \frac{5\sqrt{6}-12}{5\sqrt{6}-12}$$

$$y = \frac{-12\sqrt{6}+5(6)}{144-25(6)}$$

$$= \frac{30-12\sqrt{6}}{144-150}$$

$$= \frac{30-12\sqrt{6}}{-6}$$

$$= -5+2\sqrt{6}$$

MIN $(1-\sqrt{6}, -5+2\sqrt{6})$