

$$\left(\frac{8}{27}\right)^{-\frac{1}{3}} = \left(\frac{2}{3}\right)^{-1} = \frac{3}{2}$$

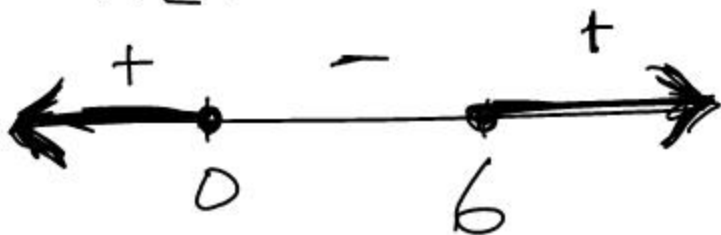
$$\left(\frac{8}{27}\right)^{\frac{4}{3}} = \left(\frac{2}{3}\right)^4 = \frac{16}{81}$$

p. 150

#59. $y = \sqrt[4]{x^2 - 6x}$

$$x^2 - 6x \geq 0$$

$$x(x-6) \geq 0$$



$D: (-\infty, 0] \cup [6, \infty)$

↑
union
"or"

∩
↑
And
intersection

#61. $y = \frac{3}{\sqrt{x-4}}$

$D: (4, \infty)$

$$x-4 > 0$$

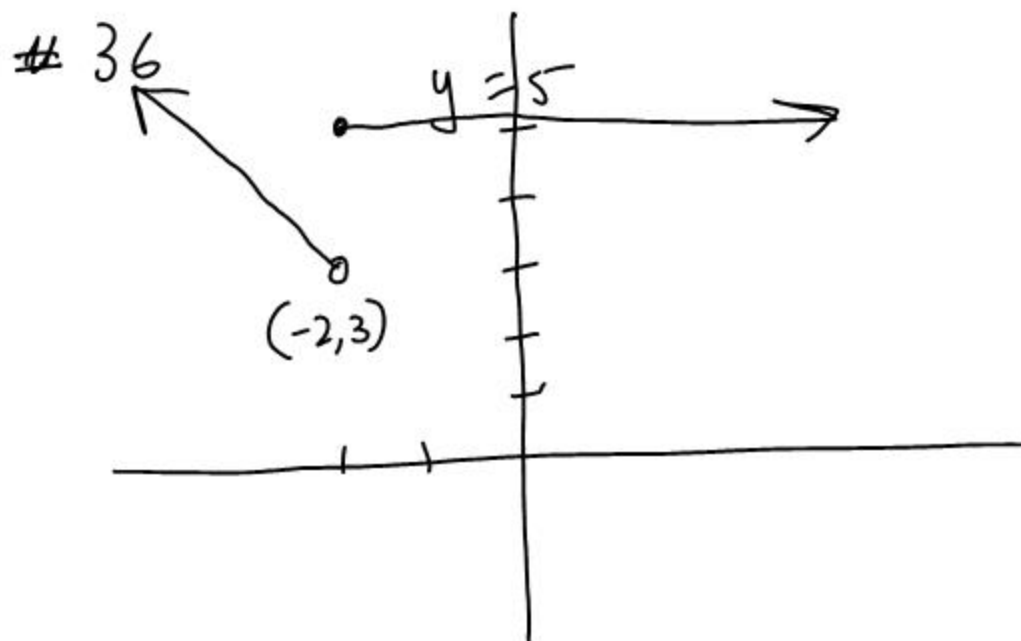
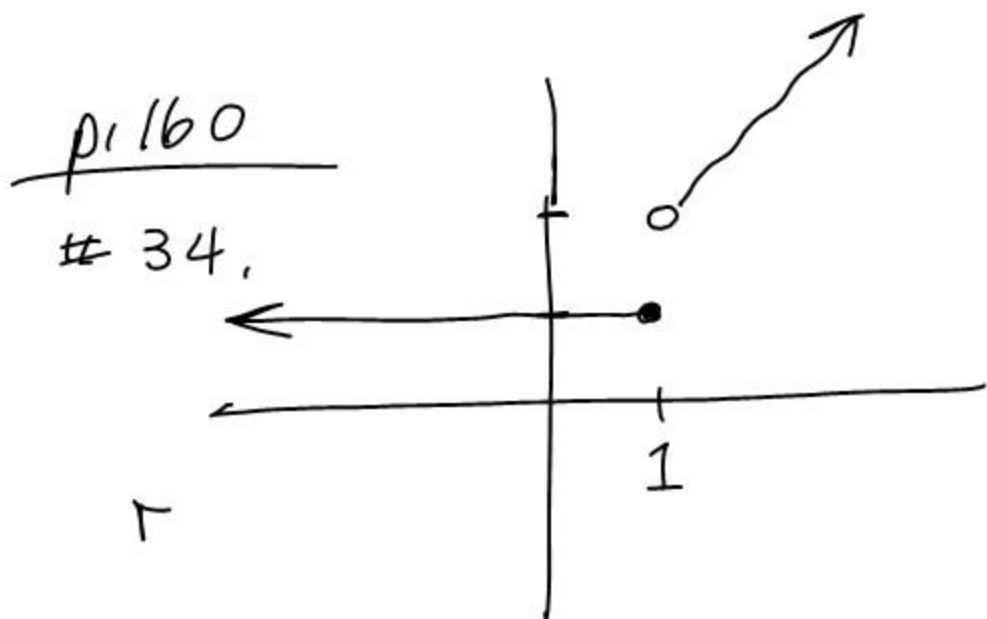
$$x > 4$$

57 $y = \frac{\sqrt{2+x}}{3-x}$

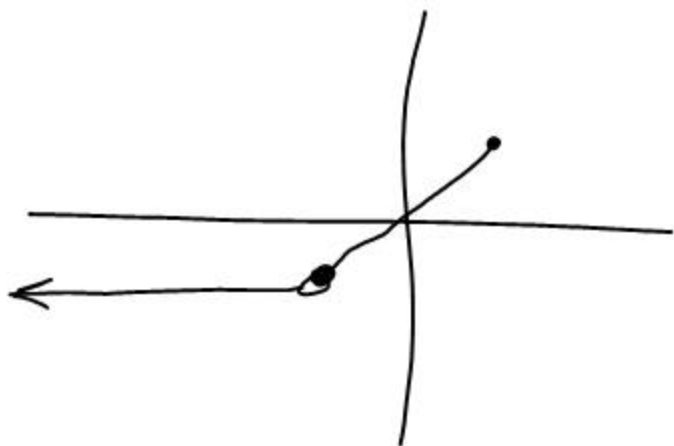
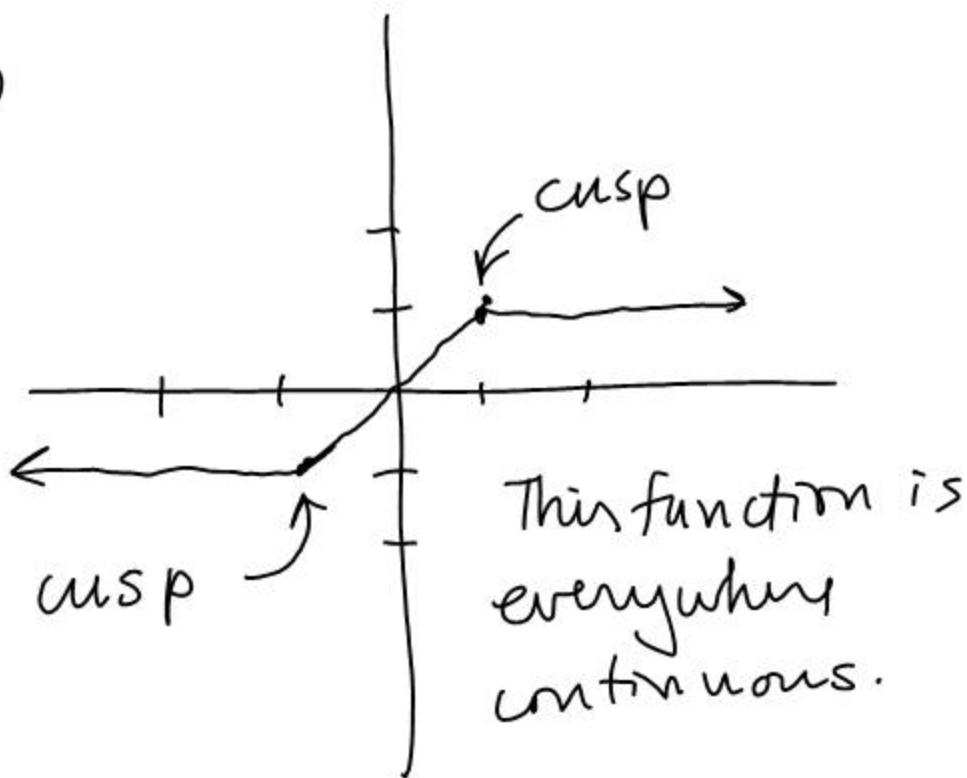
$$2+x \geq 0$$

$$x \geq -2 \text{ and } x \neq 3$$

$$D: [-2, 3) \cup (3, \infty)$$



#40



p. 169 #6/a) $g(-2) = 4$, $g(0) = 6$, $g(7) = 4$

(b) $D: [-2, 8]$

$R: [2, 7]$

(d) $g(x) > 4$ if
 $(-2, 2) \cup (7, 8]$

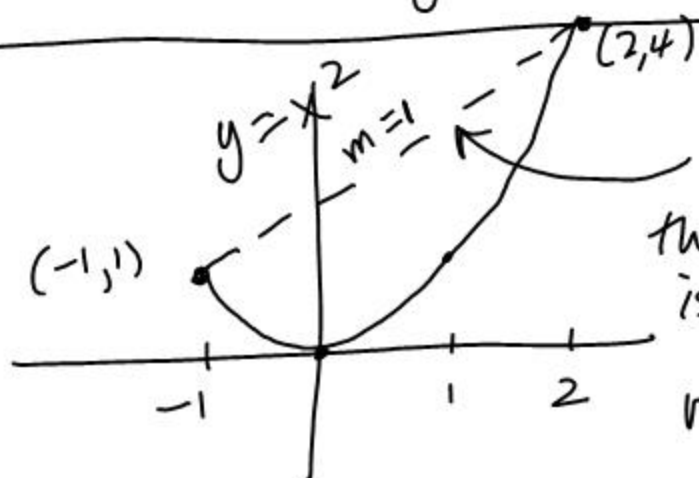
(c) $g(x) = 4$ if $x = -2, 2, 7$

maximum } extremum
minimum }

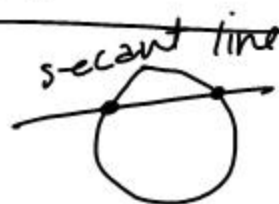
plurals

maxima } extrema
minima }

The Average Rate of Change in a Function



The slope of this secant line is the average rate of change on $[-1, 2]$



Formula for average rate of change in f on $[a, b]$ is $\frac{f(b) - f(a)}{b - a}$.

Ex Find the ave. rate of change in x^3 on $[1, 2]$.

$$\frac{2^3 - 1^3}{2 - 1} = 7$$

HW p. 169 # 31 - 34, 37*

p. 177 # 11, 13, 16