T/PC
Ch 2
Sec 2.3

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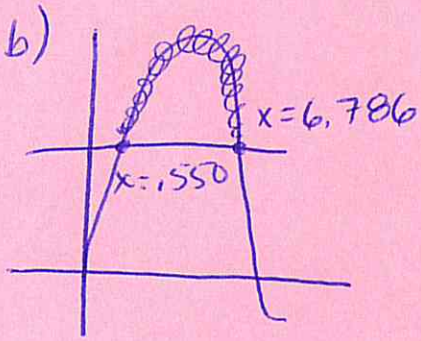
57. cubic: $y = .25x^3 - 1.25x^2 - 6.75x + 19.75$

59. quartic: $y = -2.208x^4 + 45.75x^3 - 339.792x^2 + 1075.25x - 1231$

66. a) length: $60-2x$ width $15-2x$ height: x

$V(x) = x(60-2x)(15-2x)$

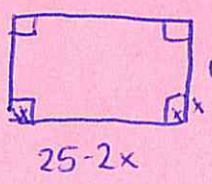
b)

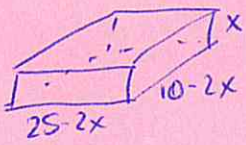


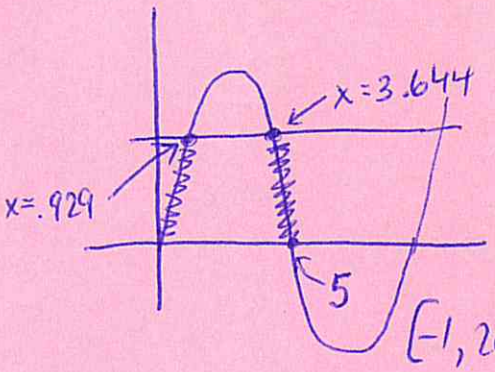
Any value of x between .550 + 6.786 in will produce a volume of <u>at least</u> $450 in^3$

$[-1, 20]$ by $[-1, 1500]$

67. $V(x) = x(25-2x)(10-2x)$



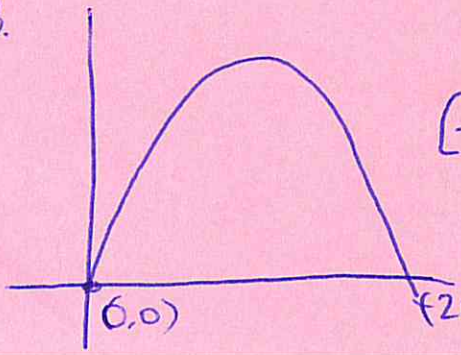




Any value of x greater than zero up to .929 in or any value of x of 3.644 in up to, but not including 5 in. will produce a volume of <u>at most</u> $175 cm^3$.

$[-1, 20]$ by $[-10, 300]$

68.



$[-1, 30]$ by $[-500, 11000]$

The volume is + (above zero) for values of x above zero + less than 21.5 in