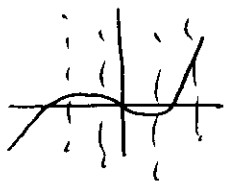
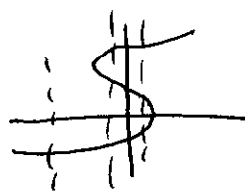


Sect 1.1 #8



is a function

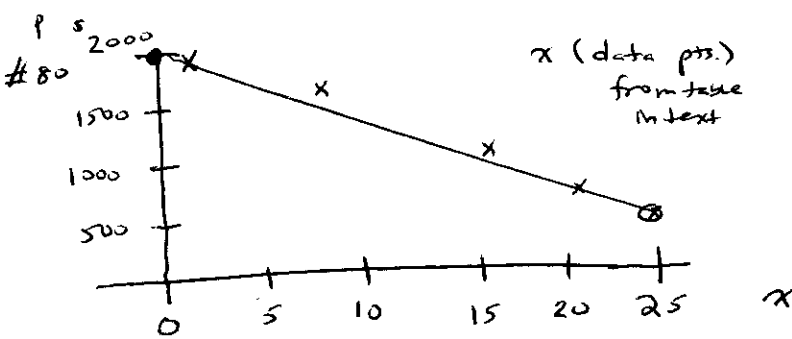
#9



is not a function

#41 $f(x) = \frac{x-2}{x+4}$ $D: (-\infty, -4) \cup (-4, \infty)$ or $D: \mathbb{R} - \{-4\}$

#43 $g(x) = \sqrt{7-x}$ $7-x \geq 0 \Rightarrow x \leq 7$ $D: (-\infty, 7]$



x (data pts.)
from table
in text

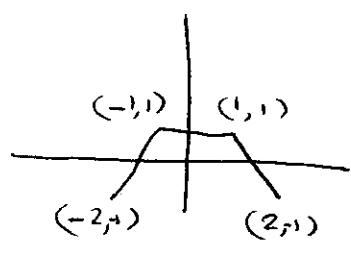
$p(x) = 2000 - 60x$

x	$p(x)$
0	2000
10	1400
25	500

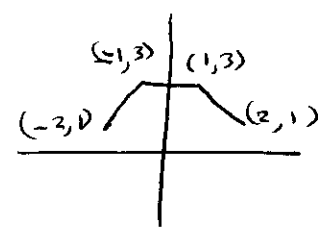
if $x=11$ $p = 2000 - 60(11) = 2000 - 660 = 1340$
 $x=18$ $p = 2000 - 60(18) = 2000 - 1080 = 920$

Sect 1.2

#9

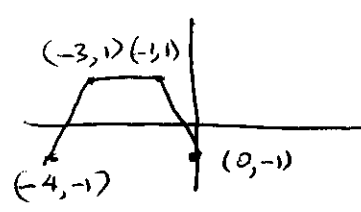


$y = f(x) + 2$
 $\xrightarrow{\text{up by 2}}$



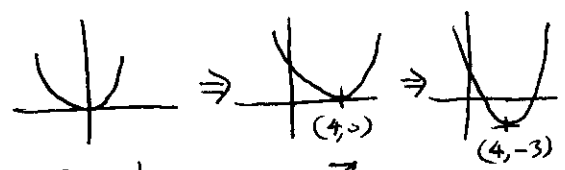
#11

$\xrightarrow{\text{left by 2}}$
 $y = f(x+2)$



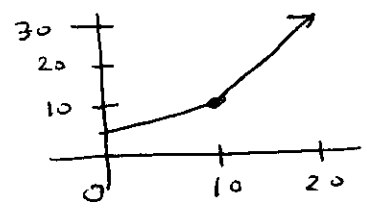
#23 $f(x) = (x-4)^2 - 3$

$y = x^2 \Rightarrow y = (x-4)^2 \Rightarrow y = (x-4)^2 - 3$
 right by 4 down by 3



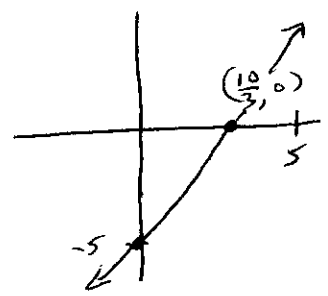
#45 $h(x) = \begin{cases} 5 + 0.5x & \text{if } 0 \leq x \leq 10 \\ -10 + 2x & \text{if } x > 10 \end{cases}$

x	$h(x)$
0	5
10	10
10.1	10.2
20	30



Sect 1.3

#19 $3x - 2y = 10$
 intercepts $(0, -5) \Rightarrow$
 $(\frac{10}{3}, 0)$



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 Barnett 10th
 Chap 1 (2)

#33 pt. $(4, -3)$ vertical $x = 4$
 horizontal $y = -3$

#37 $m = -4; (2, -3)$ $y = -4x + b$
 $-3 = -4(2) + b \Rightarrow b = 5 \Rightarrow y = -4x + 5$

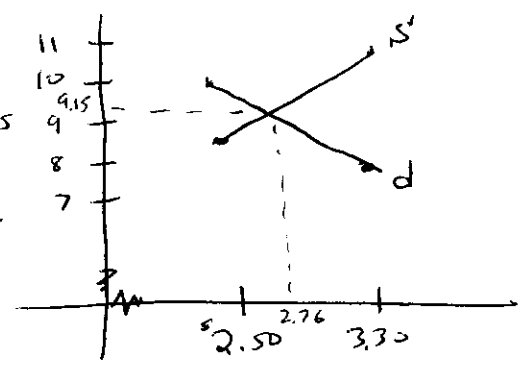
#43 $(2, 5)$ and $(5, 7)$ $m = \frac{7-5}{5-2} = \frac{2}{3}$ $y = \frac{2}{3}(x-2) + 5$ or $y = \frac{2}{3}x + \frac{11}{3}$

#63

<u>p</u>	<u>supply</u>	<u>demand</u>
\$2.00	8.5	9.8
3.30	10.5	7.8

(A) $m = \frac{10.5 - 8.5}{3.3 - 2.5} = \frac{2.0}{0.8} = 2.5$ $S = 2.5(p - 2.50) + 8.5$
 $S = 2.5p + 2.25$

(B) $m = \frac{7.8 - 9.8}{3.3 - 2.5} = \frac{-2.0}{0.8} = -2.5$ $d = -2.5(p - 2.50) + 9.8$
 $d = -2.5p + 16.05$



$2.5p + 2.25 = -2.5p + 16.05$
 $5p = 13.8$
 $p = 2.76$ $s = d = 9.15$

Sect 1.4

#9 (A) $y = -(x+2)^2 + 1$ vertex $(-2, 1)$ \cap \therefore m
 (B) $y = (x-2)^2 - 1$ vertex $(2, -1)$ \cup \therefore g
 (C) $y = (x+2)^2 - 1$ vertex $(-2, -1)$ \therefore f
 (D) $y = -(x-2)^2 + 1$ vertex $(2, 1)$ \therefore n

#25 $r(x) = -4x^2 + 16x - 15$

(A) Intercepts $(0, -15)$ roots $\frac{-16 \pm \sqrt{(16)^2 - 4(-4)(-15)}}{2(-4)} = \frac{-16 \pm 4}{-8} = +1.5, +2.5$ $(1.5, 0), (2.5, 0)$

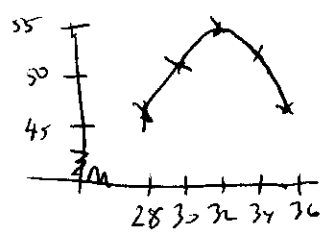
(B) Vertex $x = -\frac{b}{2a} = -\frac{16}{2(-4)} = 2$ $(2, 1)$

(C) Max $(-4x^2) \Rightarrow (2, 1)$

(D) range $(-\infty, 1]$

#53 $f(x) = -0.518x^2 + 33.3x - 481$

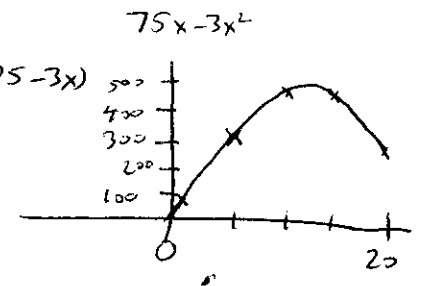
x	mileage	f(x)
28	45	45.3
30	52	51.8
32	55	54.2
34	51	52.4
36	47	46.5
31	53.5	
35	50.0	



Max at $(32.14, 54.18)$

#55 $R(x) = x(75 - 3x)$

x	R(x)
1	72
5	300
10	450
15	450
20	300



Max at $x = \frac{-75}{2(-3)} = 12.5$ $R = 468.75$ million
 $P = 75 - 3(12.5) = 37.50$