

Review 14

① $\frac{f^7}{f^{3+4}} = \frac{f^7}{f^7} = f^{7-7} = f^0 = 1$ ② $9^{4-2} \cdot 3^{8-1} = 9^2 \cdot 3^7$

③ $297^\circ + 42^\circ + 12^\circ = 1+1+1 = 3$

④ $(4^5)^d = 4^{5 \cdot d} = 4^{35}$

so
 $5 \cdot d = 35$

$d = 7$

⑤ $5x^2 + 2x - 11 - 3x^2 - 8x + 7$

$2x^2 - 6x - 4$

⑦ $\frac{W_1 R_1}{R_1} = \frac{W_2 R_2}{R_1}$

$W_1 = \frac{W_2 R_2}{R_1}$

⑥ $a_1 = 1.25$

$a_n = 1.25 + (n-1)(.79)$

⑧

x	y
0	4
1	5
2	6
3	7
4	6
5	5

From Calculator
Maximum

⑨ The second mapping represents a function because every input has a different output.

⑩ The value of the stock is increasing and decreasing over time but overall there has been an increase.

⑪ $3(2y+3) - 2(4y+5)$

$6y + 9 - 8y - 10$

$-2y - 1$

⑫ $(1, 3)$

Adding $(1, 3)$ will mean the functions continues to have one output for each input.

⑬ $(2x^2 - 4x + 5)(x - 6)$

$2x^3 - 6x^2 - 4x^2 + 24x + 5x - 30$

$2x^3 - 10x^2 + 29x - 30$

14) Let x = Hours Housecleaning
 Let y = Hours in Sales

$$\begin{aligned} x + y &\leq 41 \\ 5x + 8y &\geq 254 \end{aligned}$$

$$\begin{aligned} y &\leq -x + 41 \leftarrow \text{graph} \\ \frac{8y}{8} &\geq \frac{-5x + 254}{8} \\ y &\geq -\frac{5}{8}x + 31.75 \leftarrow \text{graph} \end{aligned}$$

15) Let x = child ticket
 Let y = senior ticket

$$\begin{aligned} 3y + 1x &= 38 \rightarrow \frac{3y}{3} = \frac{-x + 38}{3} \\ 3y + 2x &= 52 \\ \frac{3y}{3} &= \frac{-2x + 52}{3} \\ y &= -\frac{2}{3}x + 17\frac{1}{3} \leftarrow \text{graph} \end{aligned}$$

Algebraic Solution

$$\begin{aligned} 3y &= -x + 38 \\ 3y &= -2x + 52 \\ \text{so} \\ -x + 38 &= -2x + 52 \\ +2x \quad \quad +2x \\ \hline x + 38 &= 52 \\ -38 \quad -38 \\ \hline x &= 14 \end{aligned}$$

Sorry was such a challenge to graph. I used my calculator.

16)

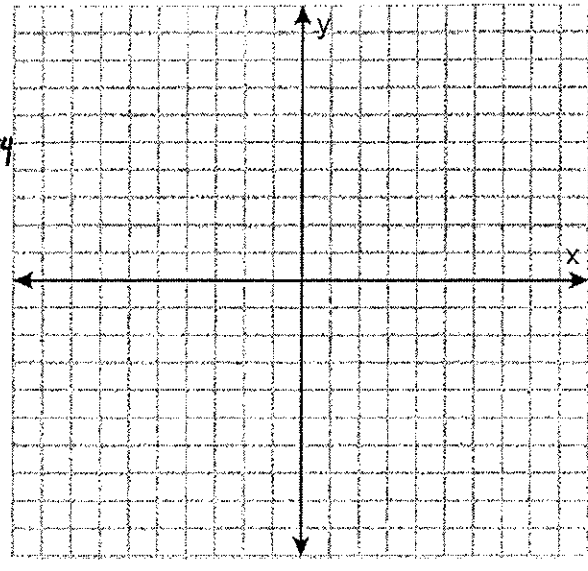
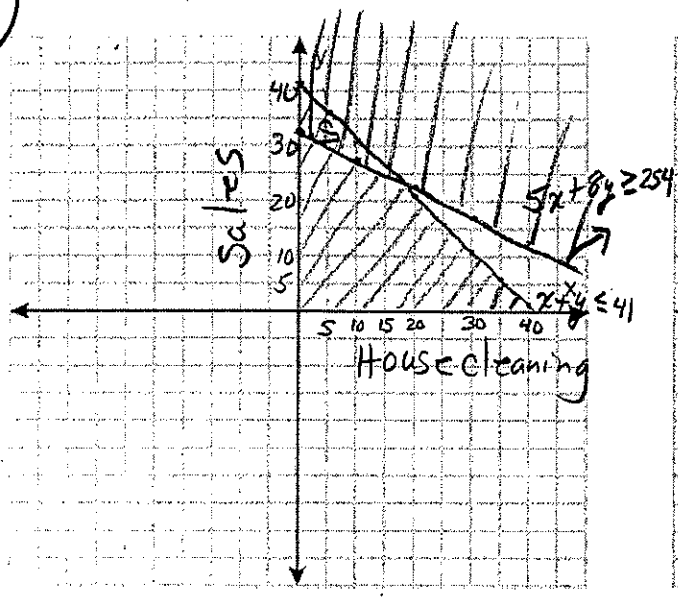
x	y
-4	-4
-3	-3
-2	-2
-1	-1
0	0
1	1
2	2
3	3
4	4
5	5
6	6

open circle ←

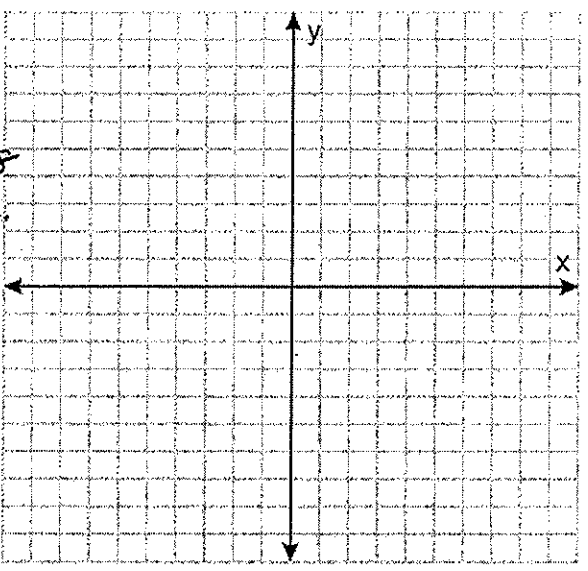
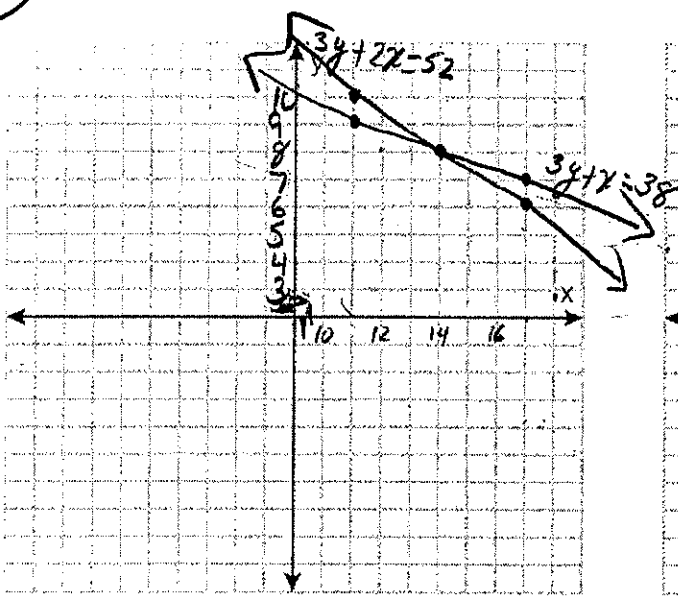
x	y ₁	y ₂
11	9	10
14	8	8
17	7	6

Solution (14, 8)
 Senior = \$8
 Child = \$14

14



15



16

