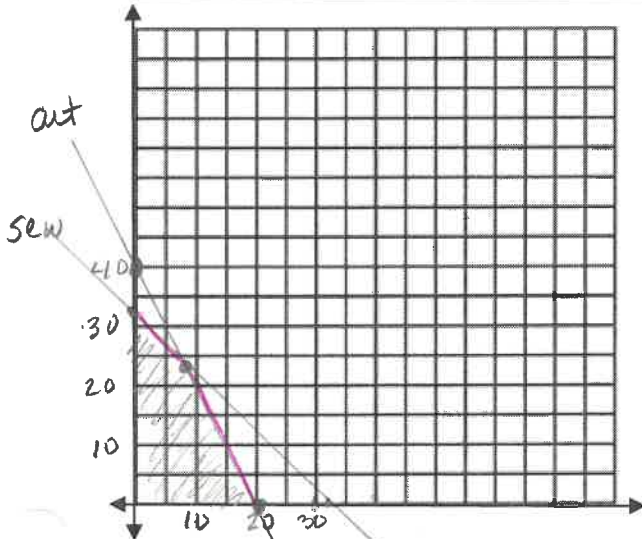


1.

	FL	3/4'L	Total / Limits	inequality / constraints
# of (what is being produced?) coats	x	y		
limitation #1 cut	2	1	40	$2x + y \leq 40$
limitation #2 sew	1	1	32	$x + y \leq 32$
objective function Profit	7	5	max	$7x + 5y = P$



Vertices

$(0, 32)$

$(20, 0)$

$(8, 24)$

$2x + y = 40$

$-x - y = -32$
 $x = 8$

$8 + y = 32$
 $y = 24$

$P = 7(0) + 5(32) = 160$

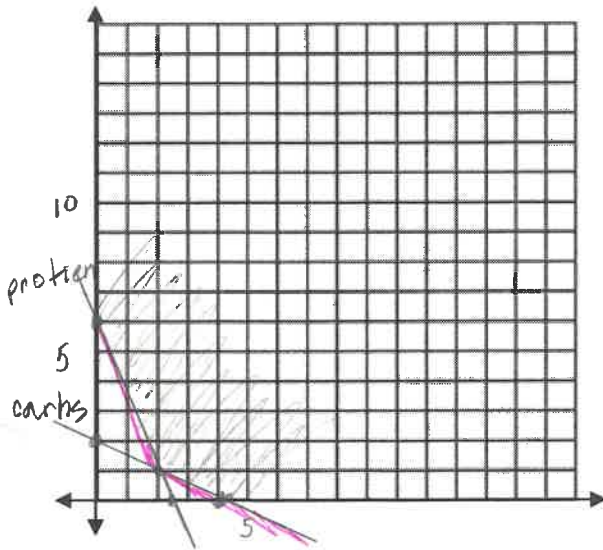
$P = 7(20) + 5(0) = 140$

$P = 7(8) + 5(24) = 176$

8 floor length
24 3/4 length
for a profit
of \$176

2.

	SF	MS	Total / Limits	inequality / constraints
# of (what is being produced?) instant noodle	x	y		
limitation #1 protein	5	2	12	$5x + 2y \geq 12$
limitation #2 carbs	2	4	8	$2x + 4y \geq 8$
objective function cost	.70	.30	min	$C = .70x + .30y$



Vertices

$(0, 6)$

$(4, 0)$

$(2, 1)$

$5x + 2y = 12$

$2x + 4y = 8$

$-10x - 4y = -24$

$2x + 4y = 8$

$-8x = -16$

$x = 2$

$C = .70(0) + .30(6) = 1.80$

$C = .70(4) + .30(0) = 2.80$

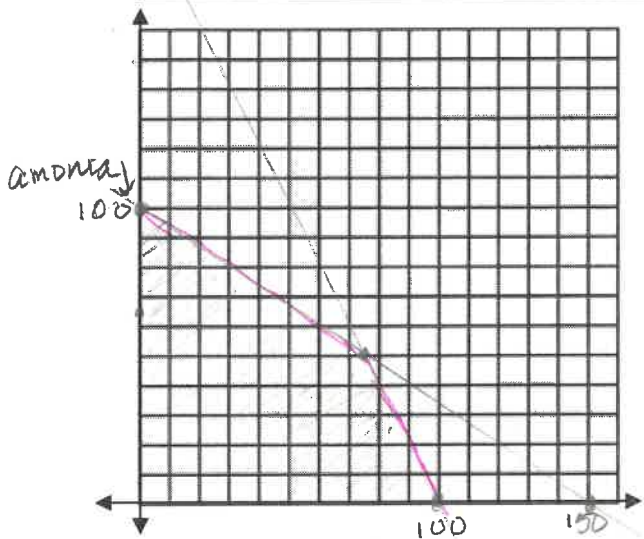
$C = .70(2) + .30(1) = 1.70$

2 T Soybean
1 T milk powder
for cost of \$1.70

3.

	Clean It	Too Dirty	Total / Limits	inequality / constraints
# of (what is being produced?) Window cleaner	x	y		
limitation #1 Ammonia	8	12	1200	$8x + 12y \leq 1200$
limitation #2 water	8	4	800	$8x + 4y \leq 800$
objective function profit	1	1.25	max	$x + 1.25y = P$

Water
200



Vertices

$(0, 100)$

$(100, 0)$

$(75, 50)$

$8x + 12y = 1200$

$-8x - 4y = 800$

$8y = 400$

$y = 50$

$8x + 200 = 800$

$8x = 600$

$x = 75$

$P = 0 + 1.25(100) = 125$

$P = 100 + 1.25(0) = 100$

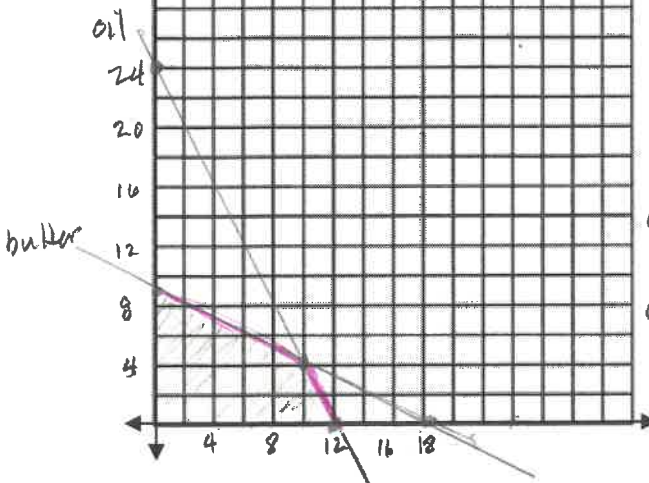
$P = 75 + 1.25(50) = 137.50$

75 bottles Clean It
50 bottles Too Dirty

Profit of
\$ 137.50

4.

	regular	extra	Total / Limits	inequality / constraints
# of (what is being produced?) lotion	x	y		
limitation #1 oil	2	1	24	$2x + y \leq 24$
limitation #2 coconut butter	1	2	18	$x + 2y \leq 18$
objective function profit	10	8	max	$10x + 8y = P$



vertices

$(0, 9)$

$(12, 0)$

$(10, 4)$

$2x + y = 24$

$-2x - 4y = -36$

$-3y = -12$

$y = 4$

$2x + 4 = 24$

$2x = 20$

$x = 10$

$C = 10(0) + 8(9) = 72$

$C = 10(12) + 8(0) = 120$

$C = 10(10) + 8(4) = 132$

10 ounces regular
4 ounces extra
Profit of \$ 132.00