9. x = # of dozen chocolate chip
y = # of dozen oatmeal brownie

Objective Function

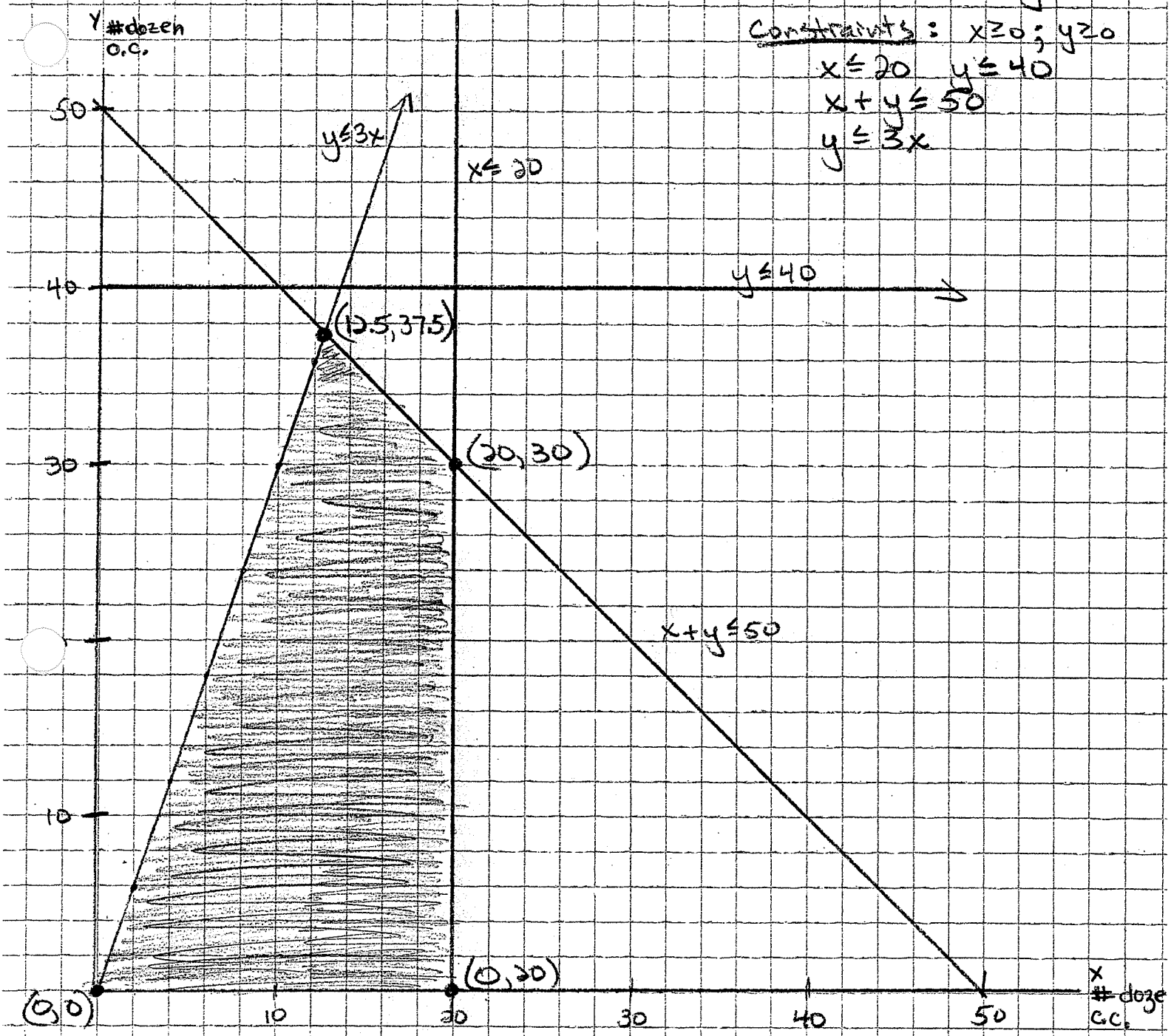
$$C = x + 1.5y$$

Constraints: $x \geq 0$; $y \geq 0$

$x \leq 20$ $y \leq 40$

$x + y \leq 50$

$y \leq 3x$



Vertices	C
(0,0)	0
(20,0)	20
(20,30)	65
(12.5, 37.5)	68.75 max

Bake $12\frac{1}{2}$ dozen chocolate chip and $37\frac{1}{2}$ oatmeal brownie for $68.75.

⑩ Christmas Tree

$80x + 160y = C$

Let x = # of real trees
y = # of artificial trees

Constraints:

$20 \leq x \leq 90$

$y \leq 100$

$x + y \geq 50$

$x + y \leq 120$

$y \geq \frac{1}{2}x$

Vertices	Cost
A(20, 100)	$17,600
B(80, 40)	$12,800
C($\frac{100}{3}$, $\frac{50}{3}$)	$5333.33
D(20, 30)	$6400

→ Real: 33 or 34, Artificial: 16 or 17

$33 + 16 \neq 50$ ← Supplier requires minimum of 50.

34 & 16 are no good supplier requires # artificial is at least half real.

* Buy ⟹ 33 & 17 costs $5360.

34 & 17 costs $5440.