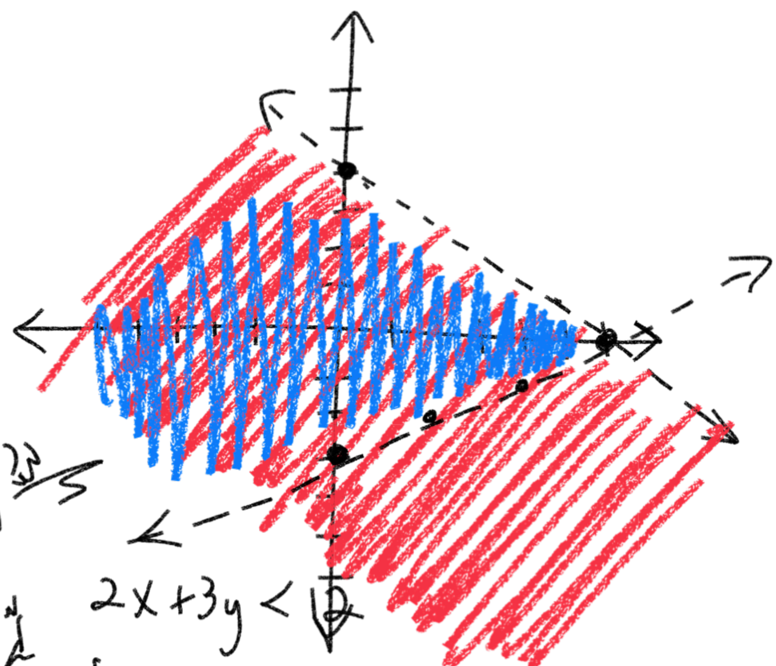
T-A2 Algebra 2 Week 18 1/24

1.) $2x + 3y < 12$ dashed

$y > \frac{1}{2}x - 3$



$x = 0$

$\cancel{2x} + 3y < 12$

$y = 4$ $(0,4)$

$\{(0,0)\}$

$y = 0$

$2x + \cancel{3y} < 12$

$x = 6$ $(6,0)$

$2x + 3y < 12$

true $0 < 12$

$y > \frac{1}{2}x - 3$

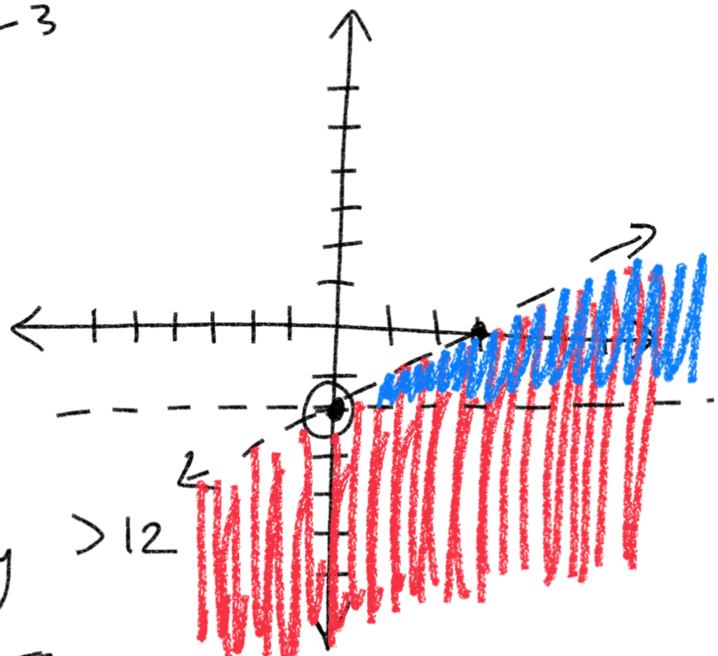
$0 > \frac{1}{2}(0) - 3$

$0 > -3$

$4x - 6y > 12$

$y > -2$

$0 > -2$



$4x - 6y > 12$
$-4x \quad -4x$

$\cancel{4x} - 6y > 12$

$$\frac{-6y}{-6} > \frac{-4x}{-6} \frac{+12}{-6}$$

$4x \cancel{-6y} > 12$

$4x - 6y > 12$

false $0 > 12$

$y < \frac{2}{3}x - 2$

Restrictions

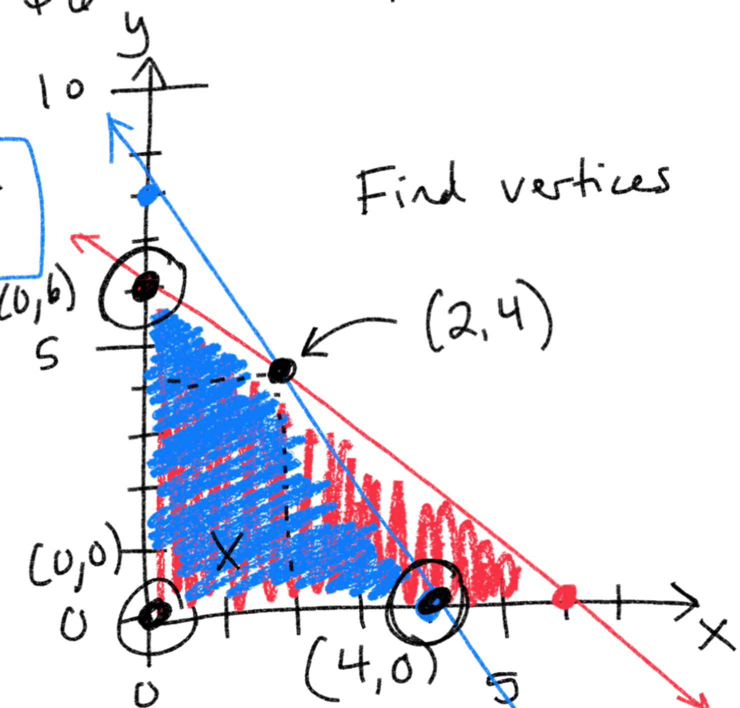
Brownies: x
$6

Cookies: y
$3

$$\begin{cases} \boxed{x + y \le 6} \\ \boxed{\$6x + \$3y \le \$24} \end{cases}$$

Quadrant I
$$\begin{cases} x \ge 0 \\ y \ge 0 \end{cases}$$

Find vertices



$x + \cancel{y} \le 6$ $\quad$ $\cancel{x} + y \le 6$

(0,0) $\quad 0 + 0 \le 6$
$0 \le 6$ true!

$\cancel{6x} + 3y \le 24$

$6x + \cancel{3y} \le 24$

$6(0) + 3(0) \le 24$
$0 \le 24$ true!

$$\$8x + \$9y = P$$

Maximum Profit!

(0,6) $\quad \$8(0) + \$9(6) = \$54$
(4,0) $\quad \$8(4) + \$9(0) = \$32$
(0,0) $\quad \$8(0) + \$9(0) = \$0$
(2,4) $\quad \$8(2) + \$9(4)$
$16 + 36 = \$52$

candidates are vertices!

(0,6) = $54