

32. p192 3.5

Totals 108 hrs fabricating
24 hrs finishing x # downhill skis
 y # crosscountry skis

Constraints Inequalities

Fabricating $6x + 4y \leq 108$

Finishing $x + y \leq 24$

$x \geq 0$
 $y \geq 0$

Quadrant I

$6x + 4y = 108$

$4y = -6x + 108$

$y = -\frac{3}{2}x + 27$

$x + y = 24$
 $y = -x + 24$

Objective Function

$P = 40x + 30y$

$6x + 4y = 108$ Line

x-intercept
 $y=0$

$6x + 4(0) = 108$

$6x = 108$

$x = 18$

 $(18, 0)$ $(0, 27)$

$x + y = 24$

$y = -x + 24$

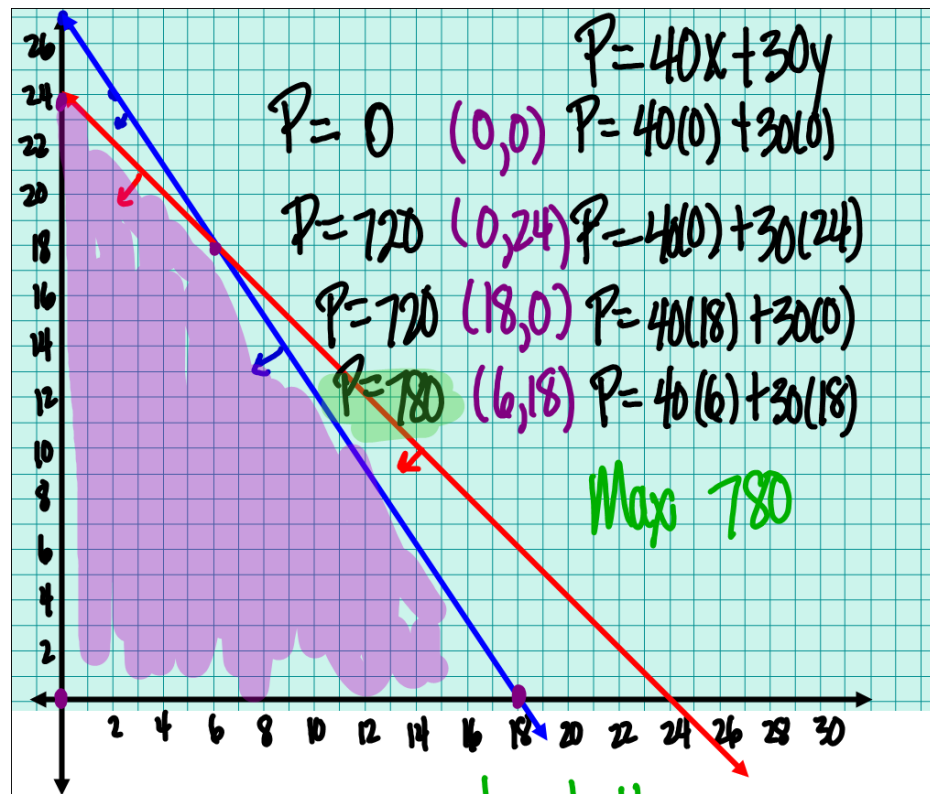
 $(0, 24)$ x-int
 $y=0$

$x + y = 24$

$x + 0 = 24$

$x = 24$

 $(24, 0)$



\$780
Profit

6 downhill
18 crosscountry

$$\rightarrow 6x + 4y = 108 \quad (6, 18)$$

$$6(6) + 4(18) = 108$$

$$\rightarrow x + y = 24 \quad (6, 18)$$

$$6 + 18 = 24$$