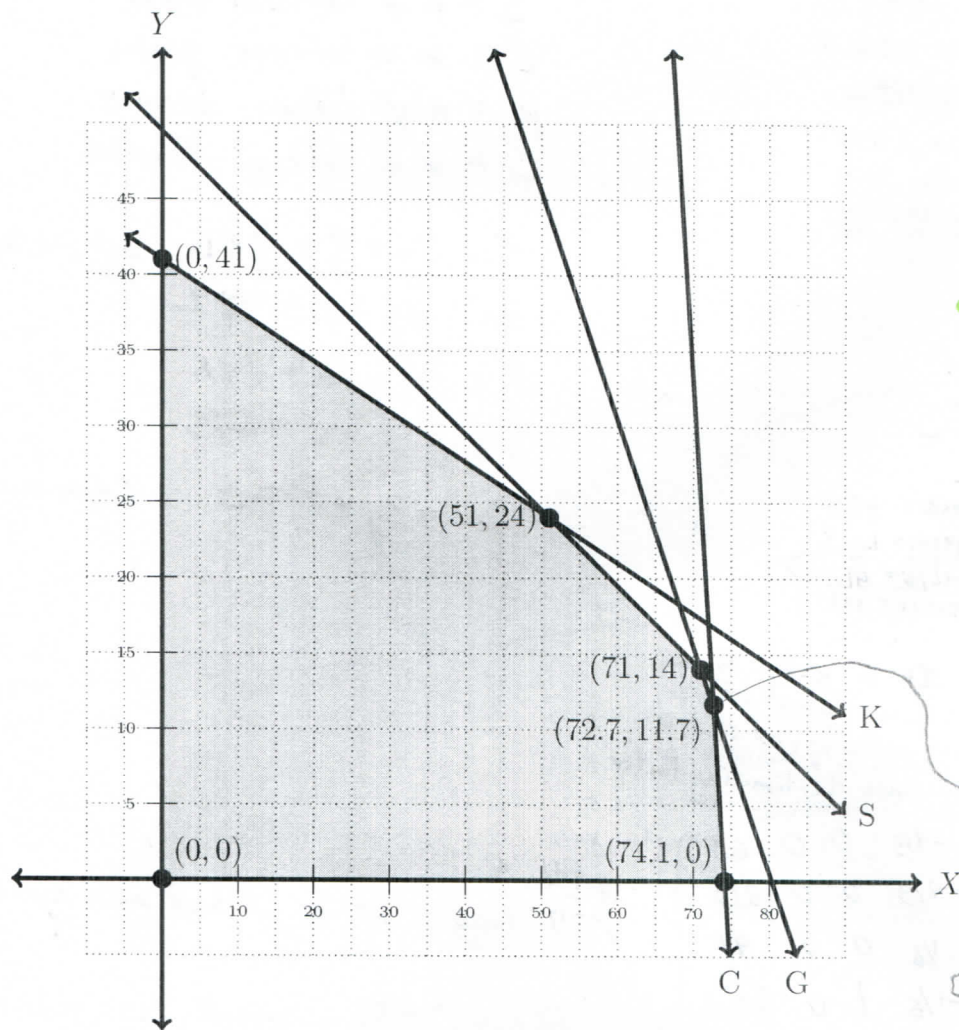6. List the corners, determine if the region is bounded or unbounded, and find the maximum value of P.

Maximize $P = 2x + 3y$ subject to $\begin{cases} S: & 4x + 8y \leq 396 \\ G: & 6x + 4y \leq 482 \\ K: & 2x + 6y \leq 246 \\ C: & 8x + y \leq 593 \end{cases}$ and $x \geq 0$, $y \geq 0$.

X	Y	P
0	0	0
0	41	3(41) = 123
51	24	102 + 72 = 174
71	14	142 + 42 = 184
72.7	11.7	145.4 + 35.1 = 180.5
74.1	0	2(74.1) = 148.2

CG - corner

$8x + y = 593$
$6x + 4y = 482$

$\rightarrow$ $32x + 4y = 2372$
$ 6x + 4y = 482$
$\overline{ 26x = 1890}$

$x = 1890/26 = 945/13 = 72.6923...$
$y = 593 - 8(945/13) = 149/13$

Is this region bounded or unbounded? Bounded. 6 corners, 6 edges

The maximum value of P is __184__ and it occurs at $(x = \underline{71}, y = \underline{14})$.