

$$I_1: -2x + y \leq 2$$

$$x < y < z$$

$$2 + 3x - 2y \leq x + \frac{3}{4}z - 3$$

$$2x - 2y - \frac{3}{4}z \leq -5$$

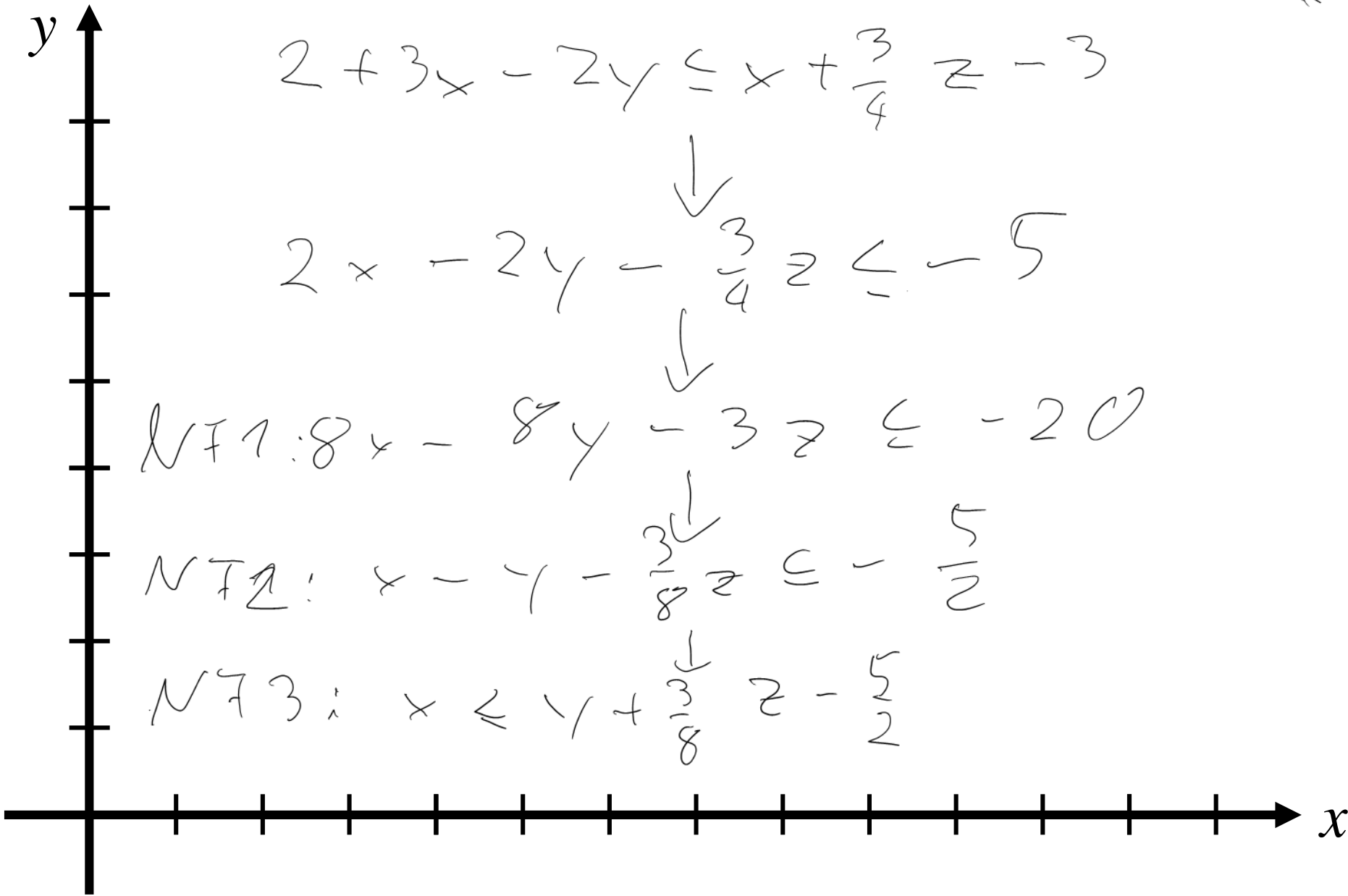
$$\text{NF1: } 8x - 8y - 3z \leq -20$$

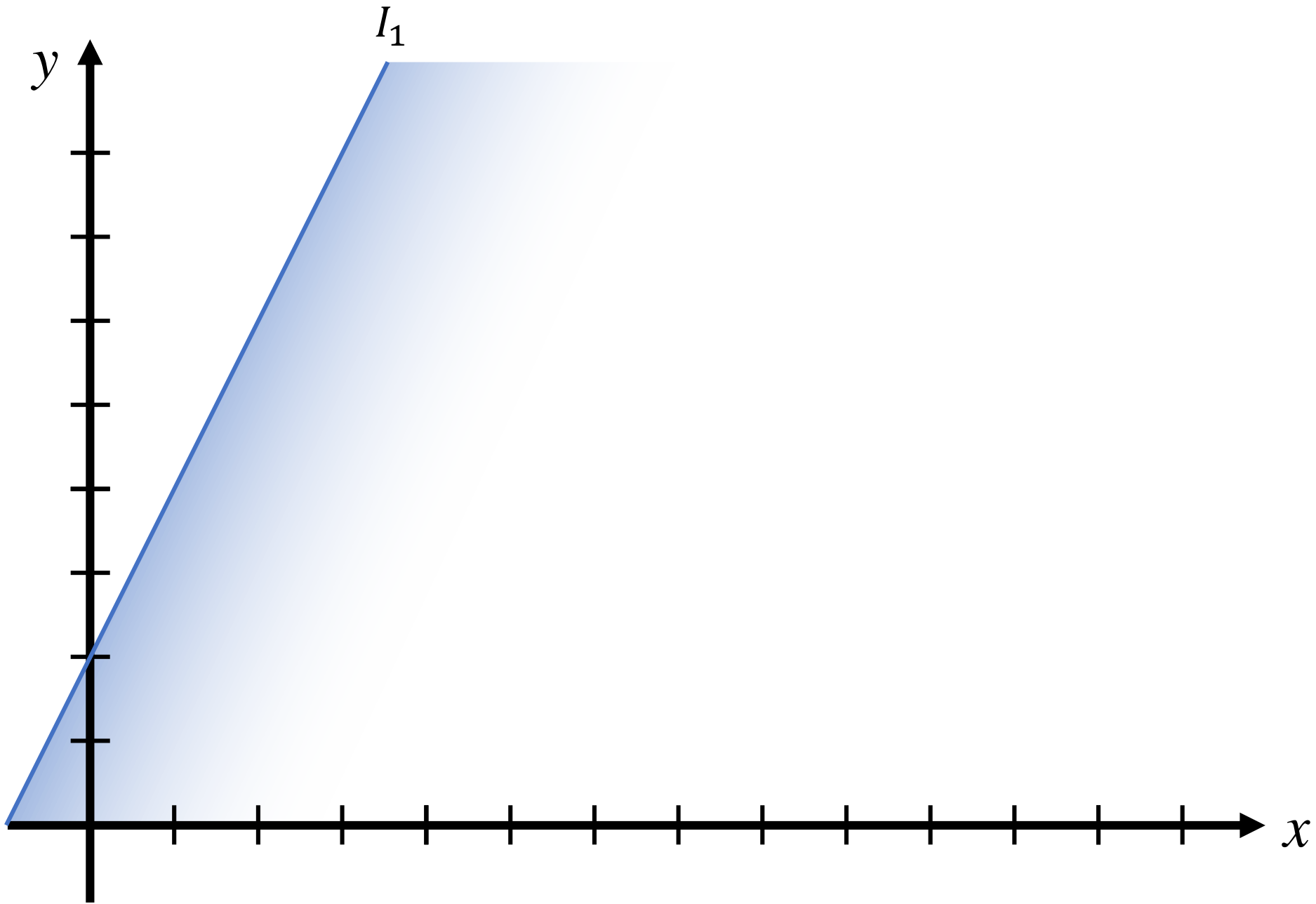
$$\text{NF2: } x - y - \frac{3}{8}z \leq -\frac{5}{2}$$

$$\text{NF3: } x \leq y + \frac{3}{8}z - \frac{5}{2}$$

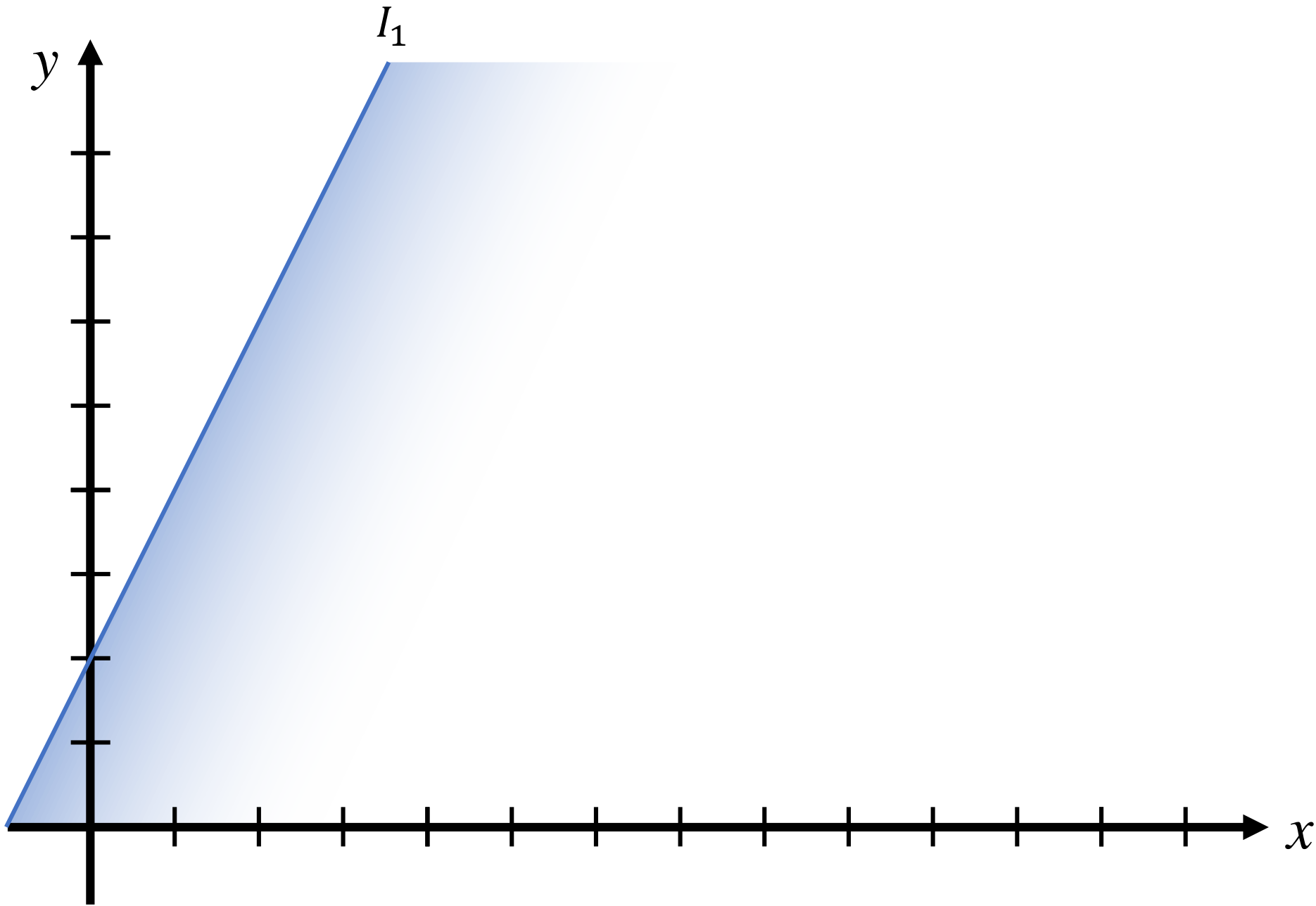
$$I_1: -2x + y \leq 2$$

$$\Leftrightarrow y \leq 2x + 2$$





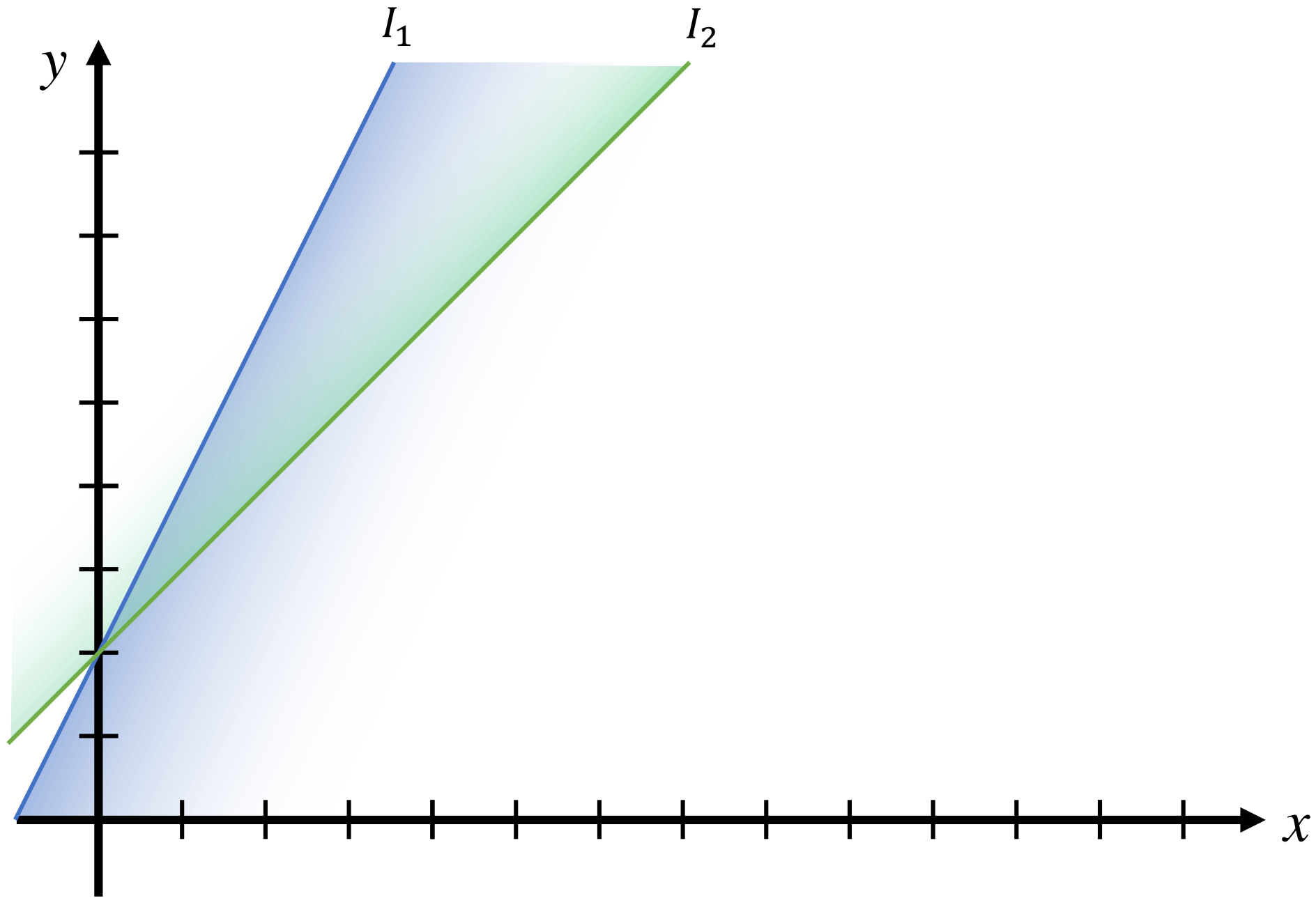
$$I_1: -2x + y \leq 2$$
$$\rightsquigarrow y \leq 2x + 2$$



$$I_1: -2x + y \leq 2$$

$$\Leftrightarrow y \leq 2x + 2$$

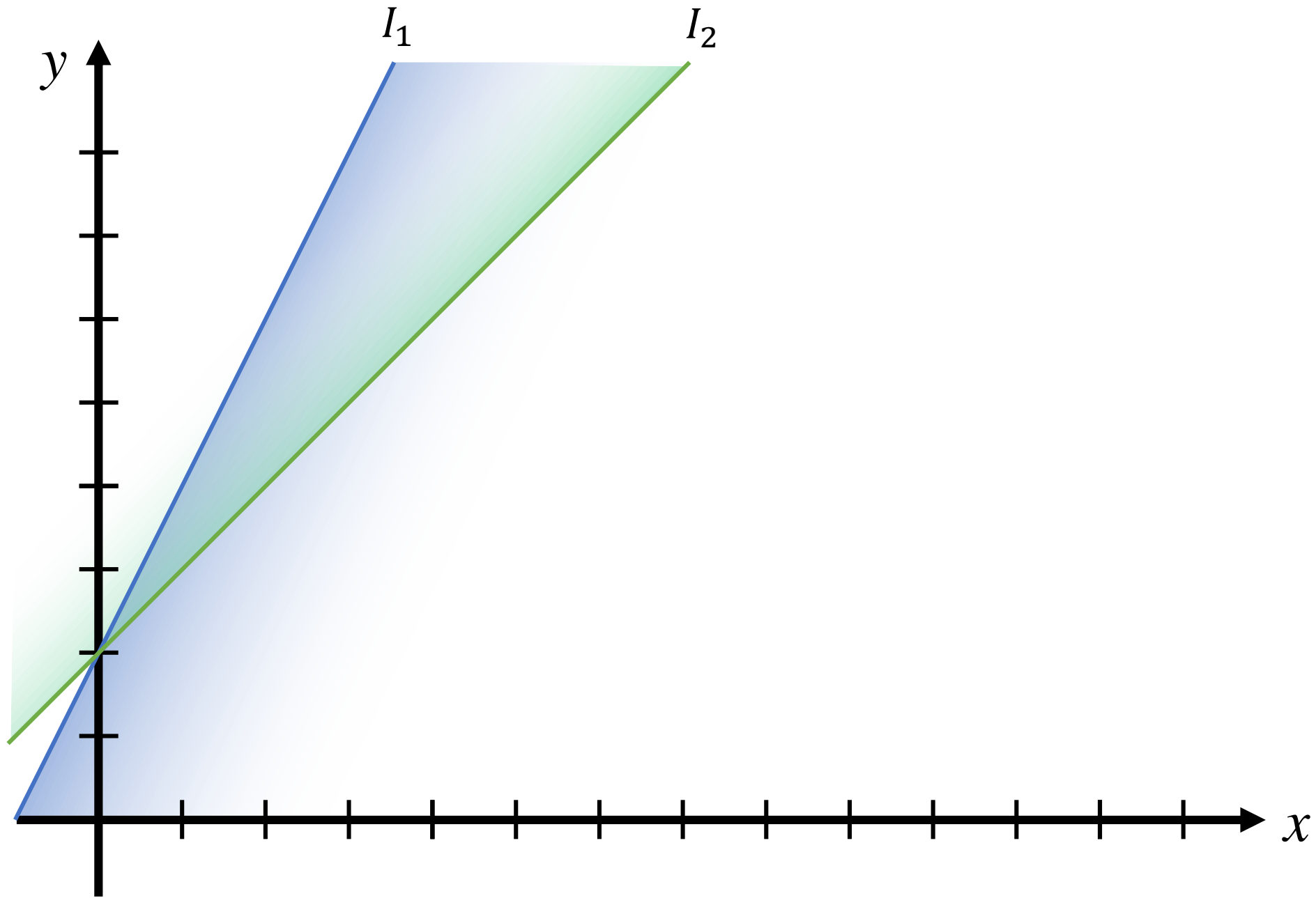
$$I_2: y \geq x + 2$$



$$I_1: -2x + y \leq 2$$

$$\Leftrightarrow y \leq 2x + 2$$

$$I_2: y \geq x + 2$$

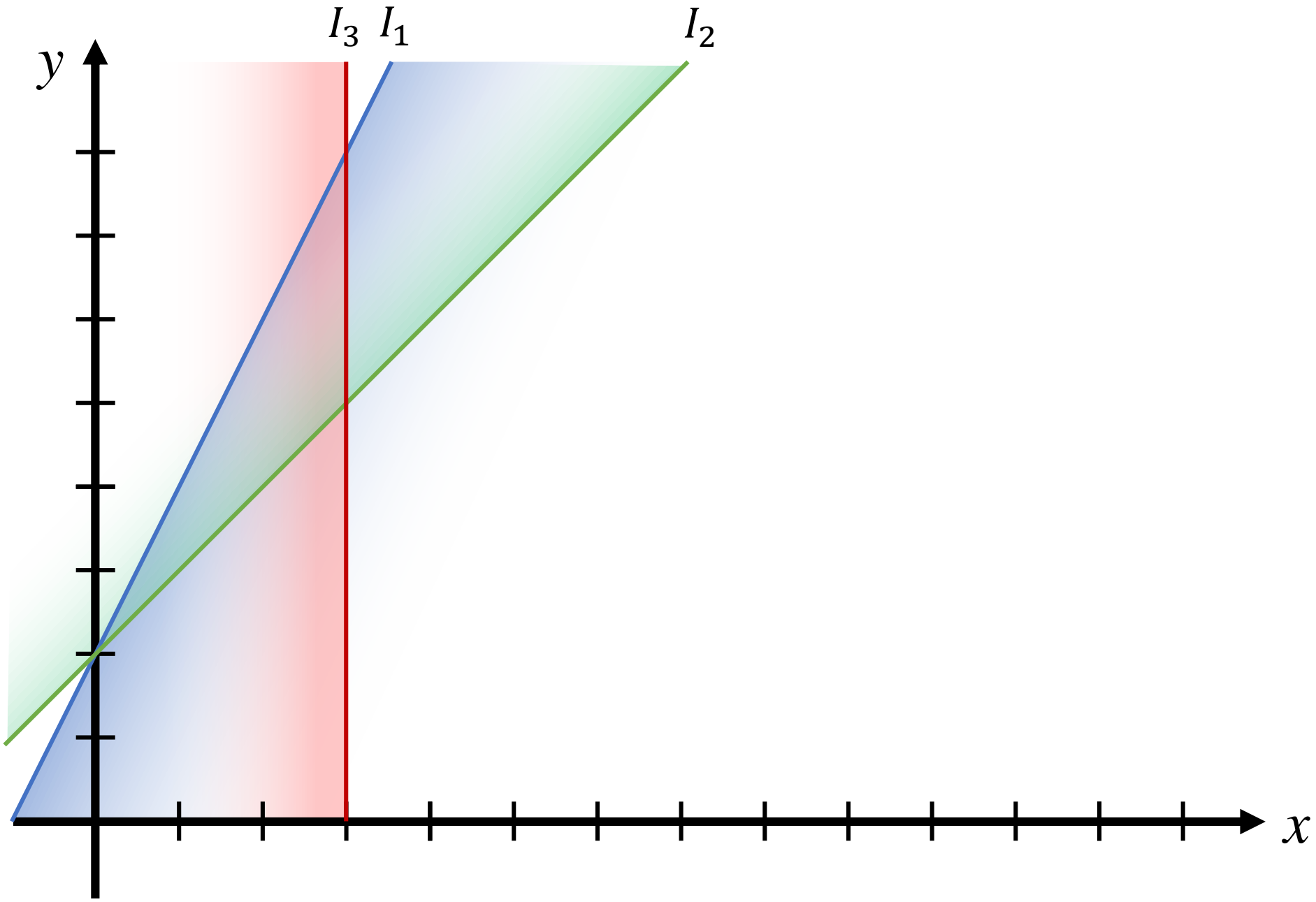


$$I_1: -2x + y \leq 2$$

$$\Leftrightarrow y \leq 2x + 2$$

$$I_2: y \geq x + 2$$

$$I_3: x \leq 3$$

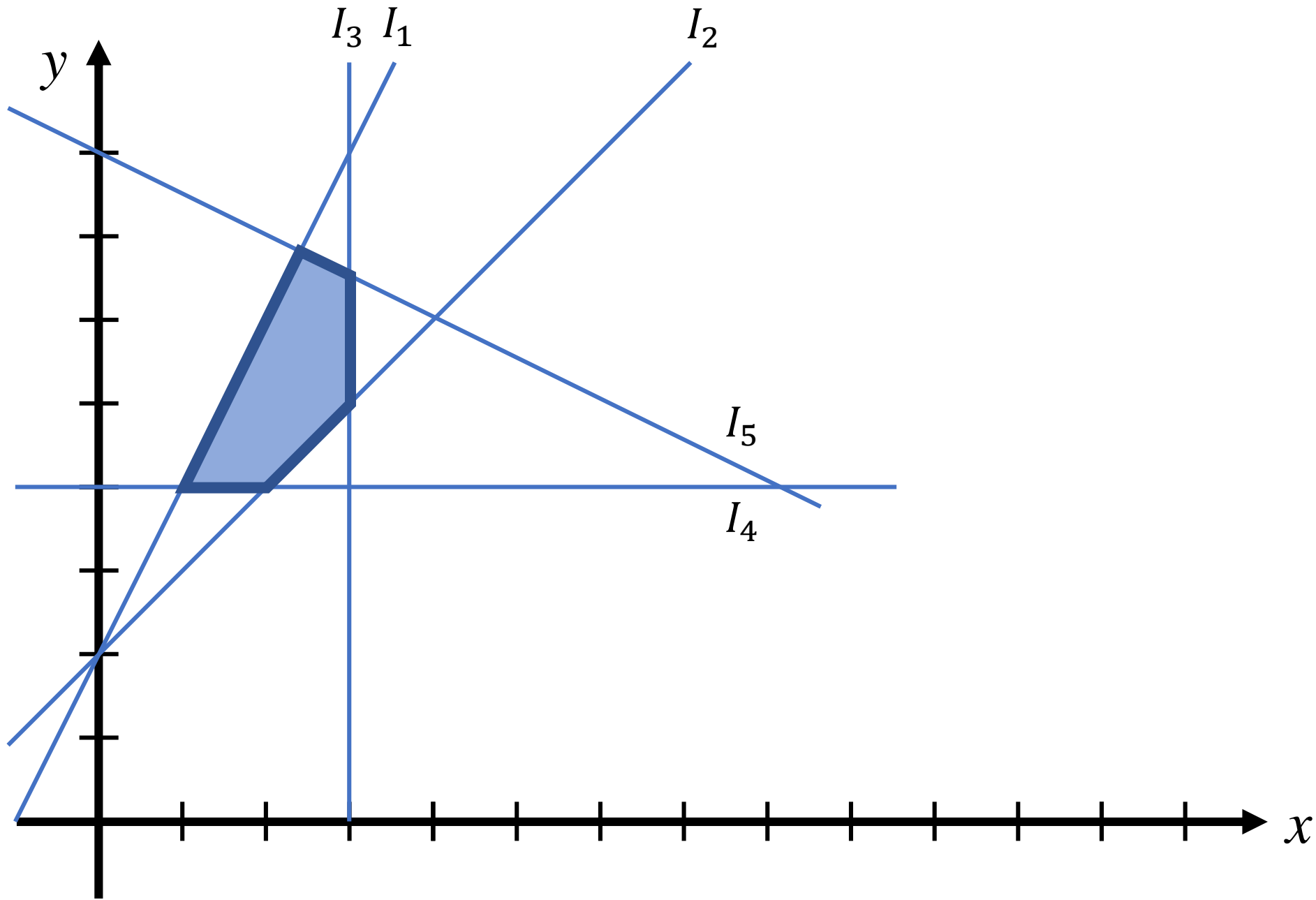


$$I_1: -2x + y \leq 2$$

$$\Leftrightarrow y \leq 2x + 2$$

$$I_2: y \geq x + 2$$

$$I_3: x \leq 3$$



$$I_1: -2x + y \leq 2$$

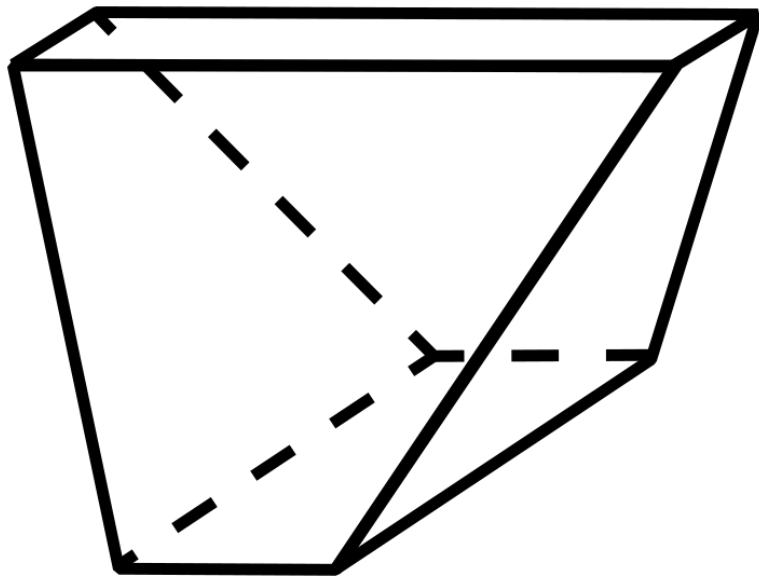
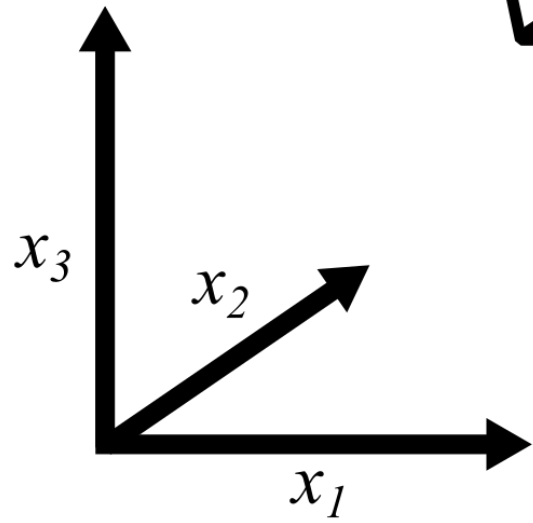
$$\Leftrightarrow y \leq 2x + 2$$

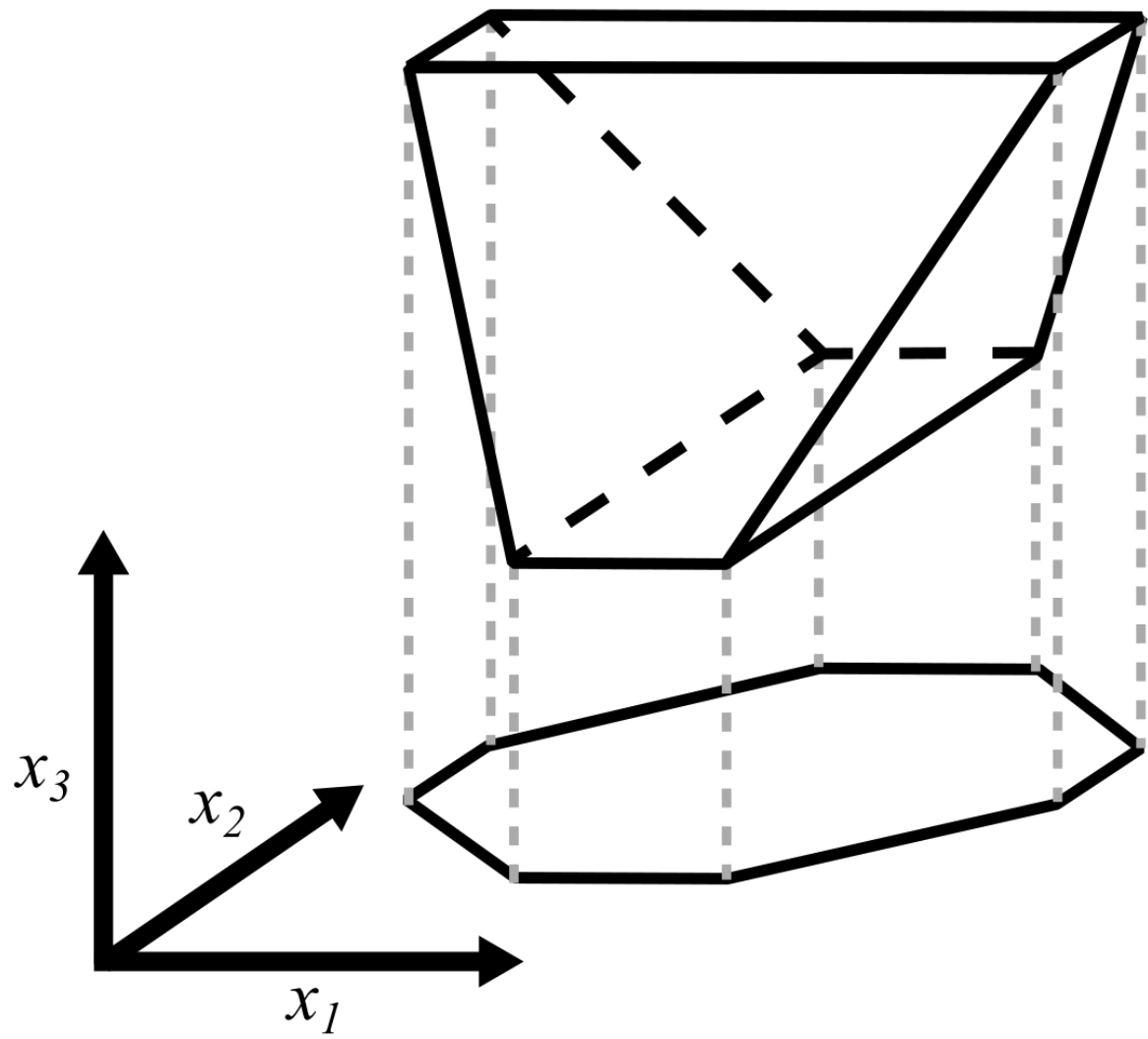
$$I_2: y \geq x + 2$$

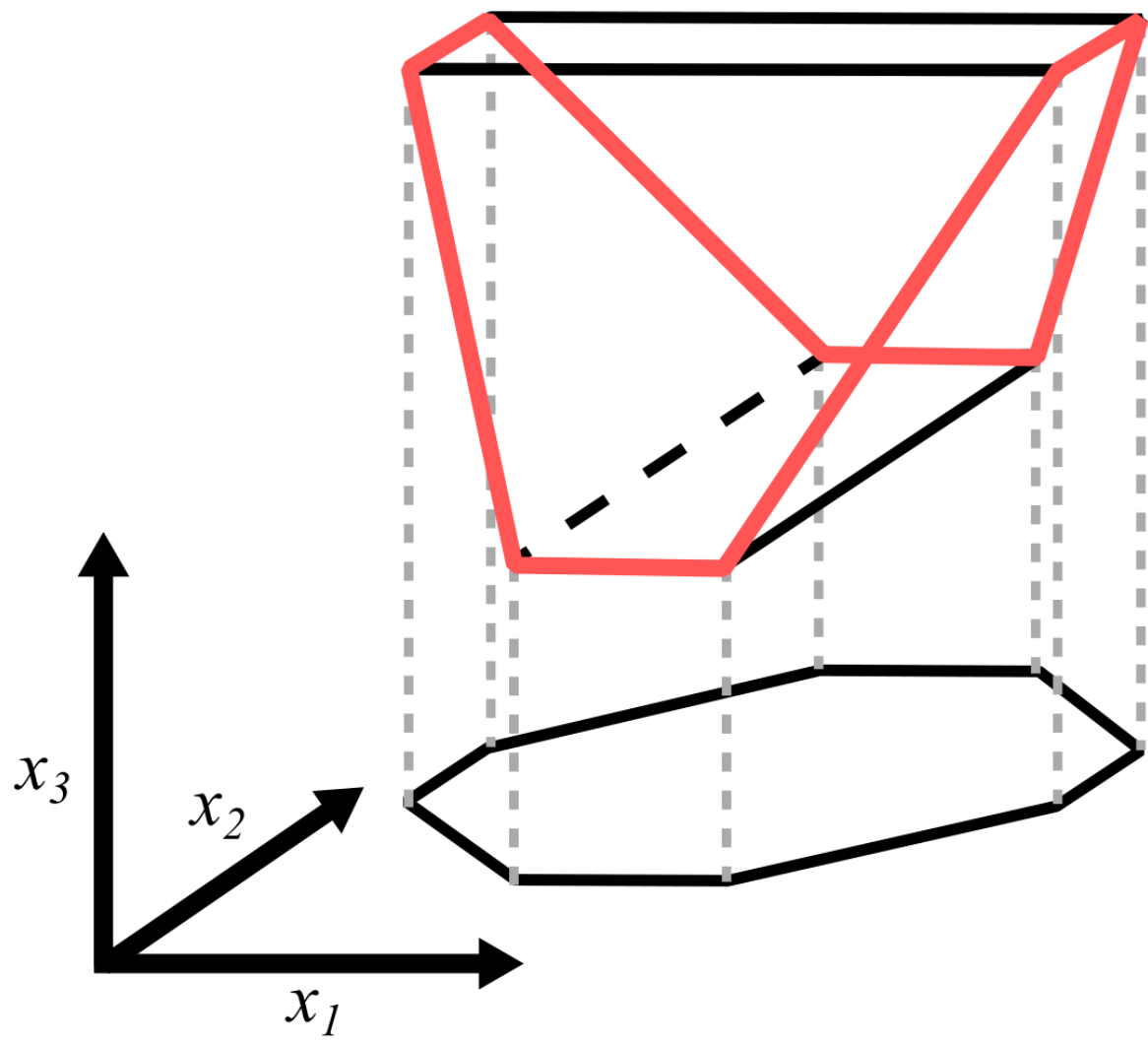
$$I_3: x \leq 3$$

$$I_4: y \geq 4$$

$$I_5: y \leq -\frac{x}{2} + 8$$







Intersection of

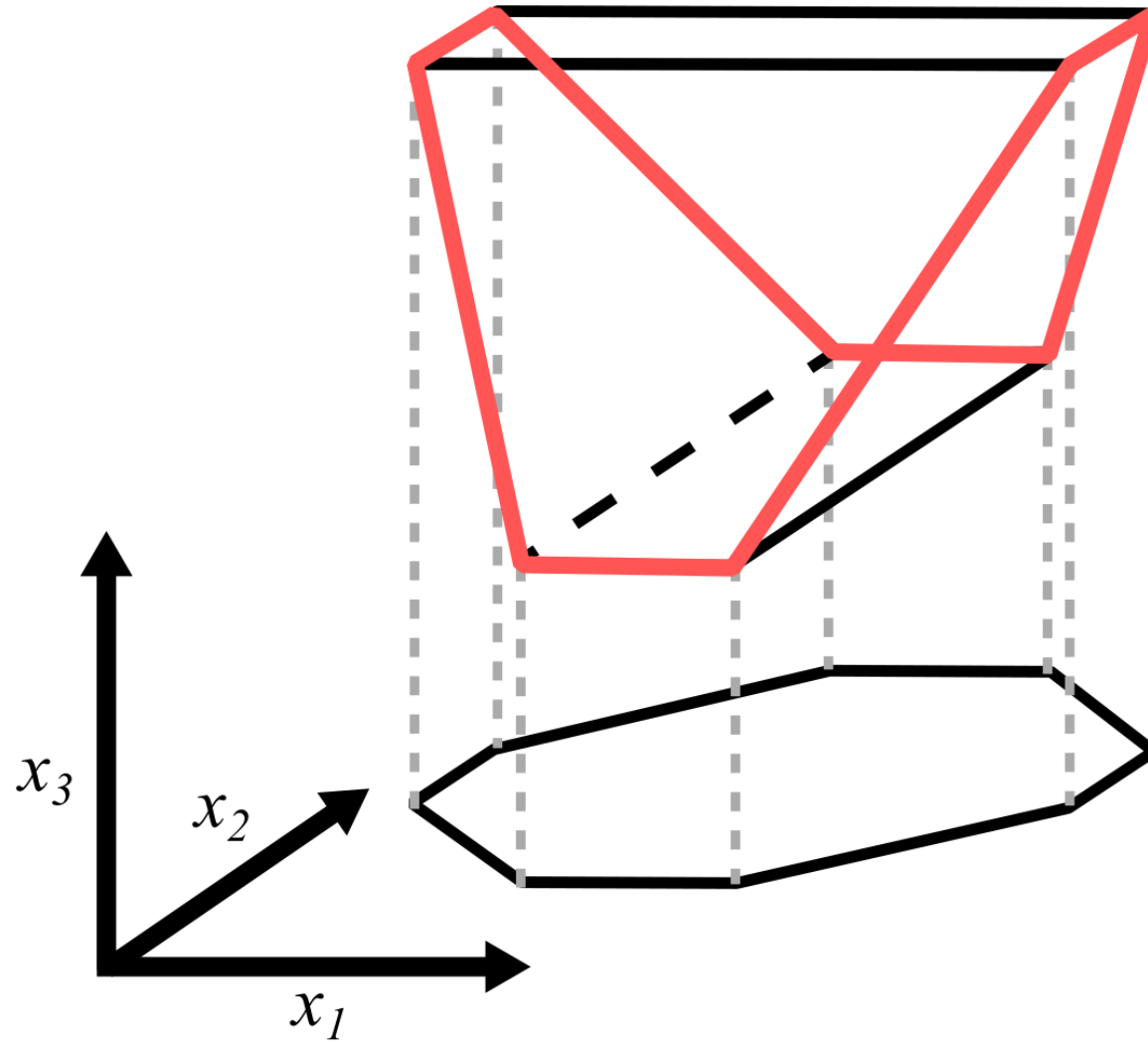
$$x_3 \circ_u t[x_1, x_2]$$

$$x_3 \circ_l t[x_1, x_2]$$

where

$$\circ_u \in \{<, \leq\}$$

$$\circ_l \in \{>, \geq\}$$



Intersection of

$$x_3 \circ_u t[x_1, x_2]$$

$$x_3 \circ_l t[x_1, x_2]$$

where

$$\circ_u \in \{<, \leq\}$$

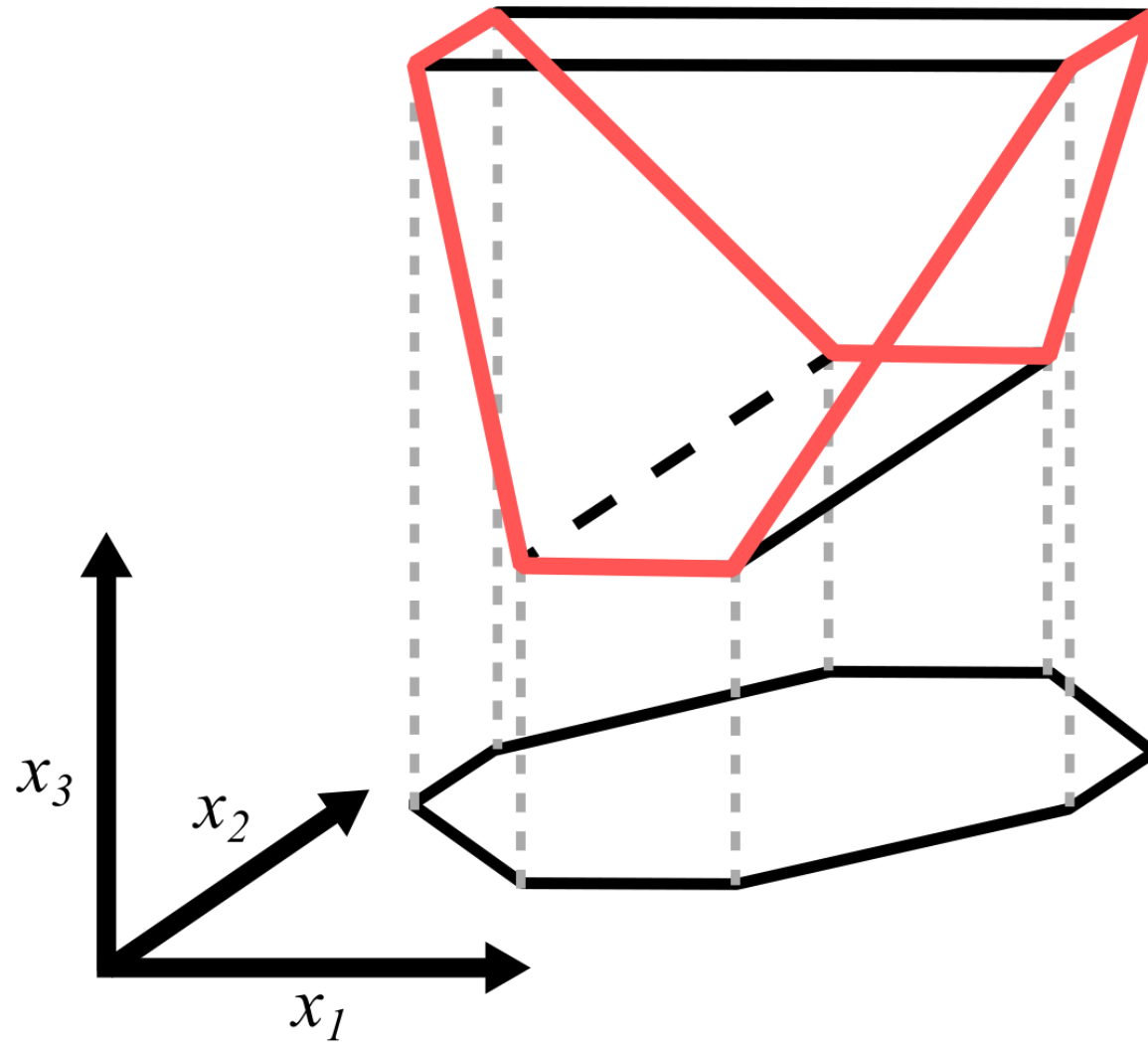
$$\circ_l \in \{>, \geq\}$$

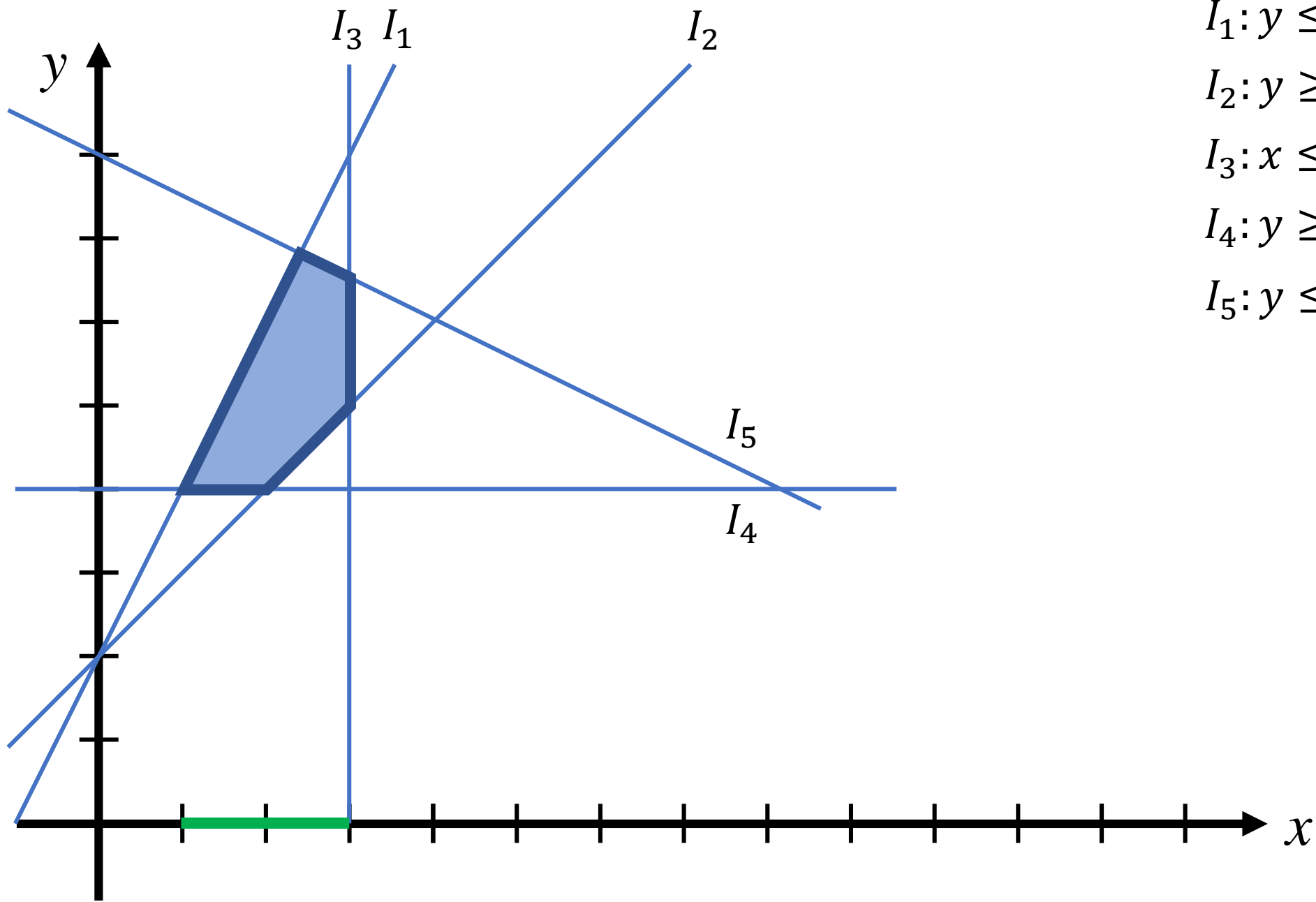
Or

$$0 \circ t[x_1, x_2]$$

where

$$\circ \in \{<, \leq, >, \geq\}$$





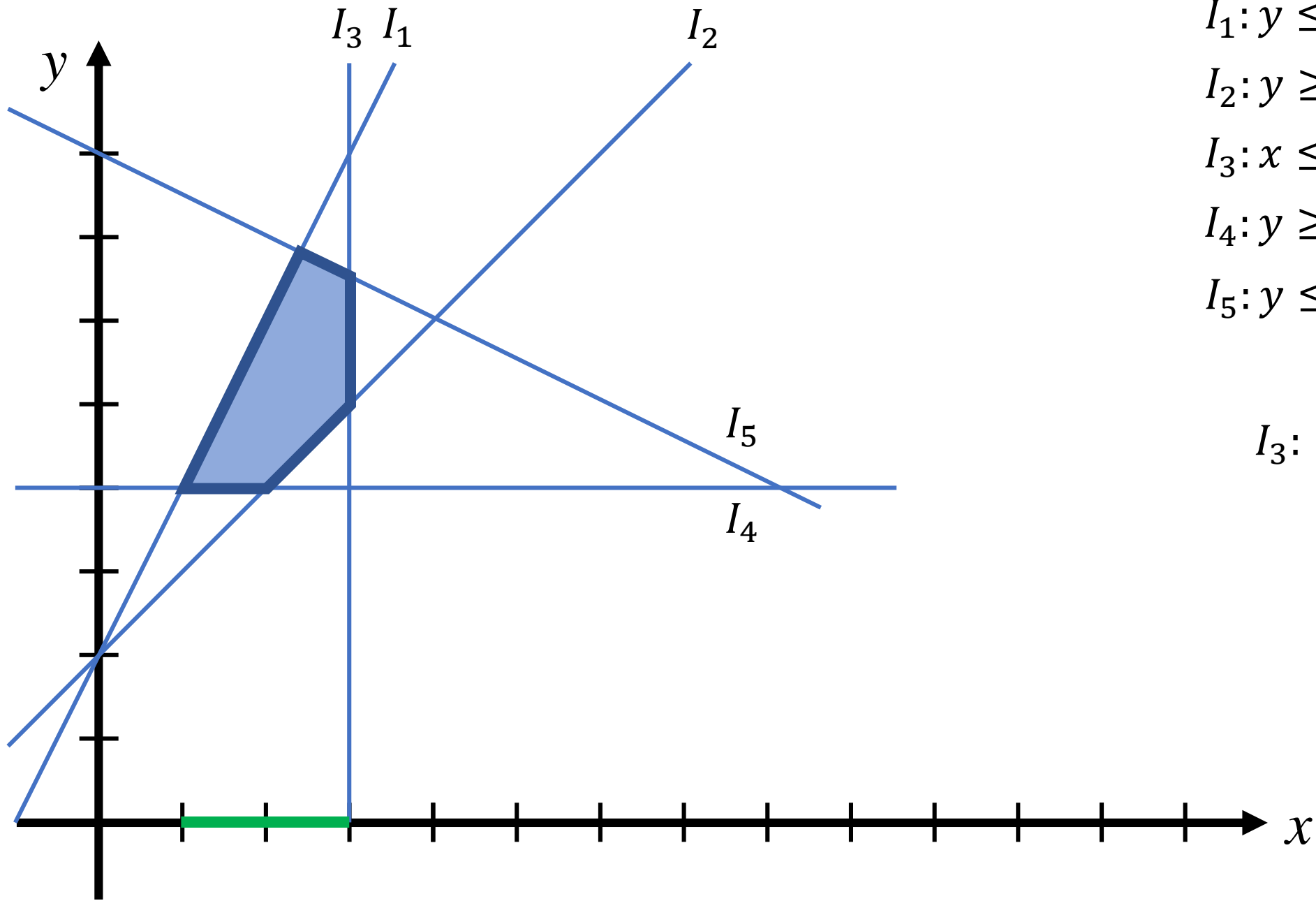
$$I_1: y \leq 2x + 2$$

$$I_2: y \geq x + 2$$

$$I_3: x \leq 3$$

$$I_4: y \geq 4$$

$$I_5: y \leq -\frac{x}{2} + 8$$



$$I_1: y \leq 2x + 2$$

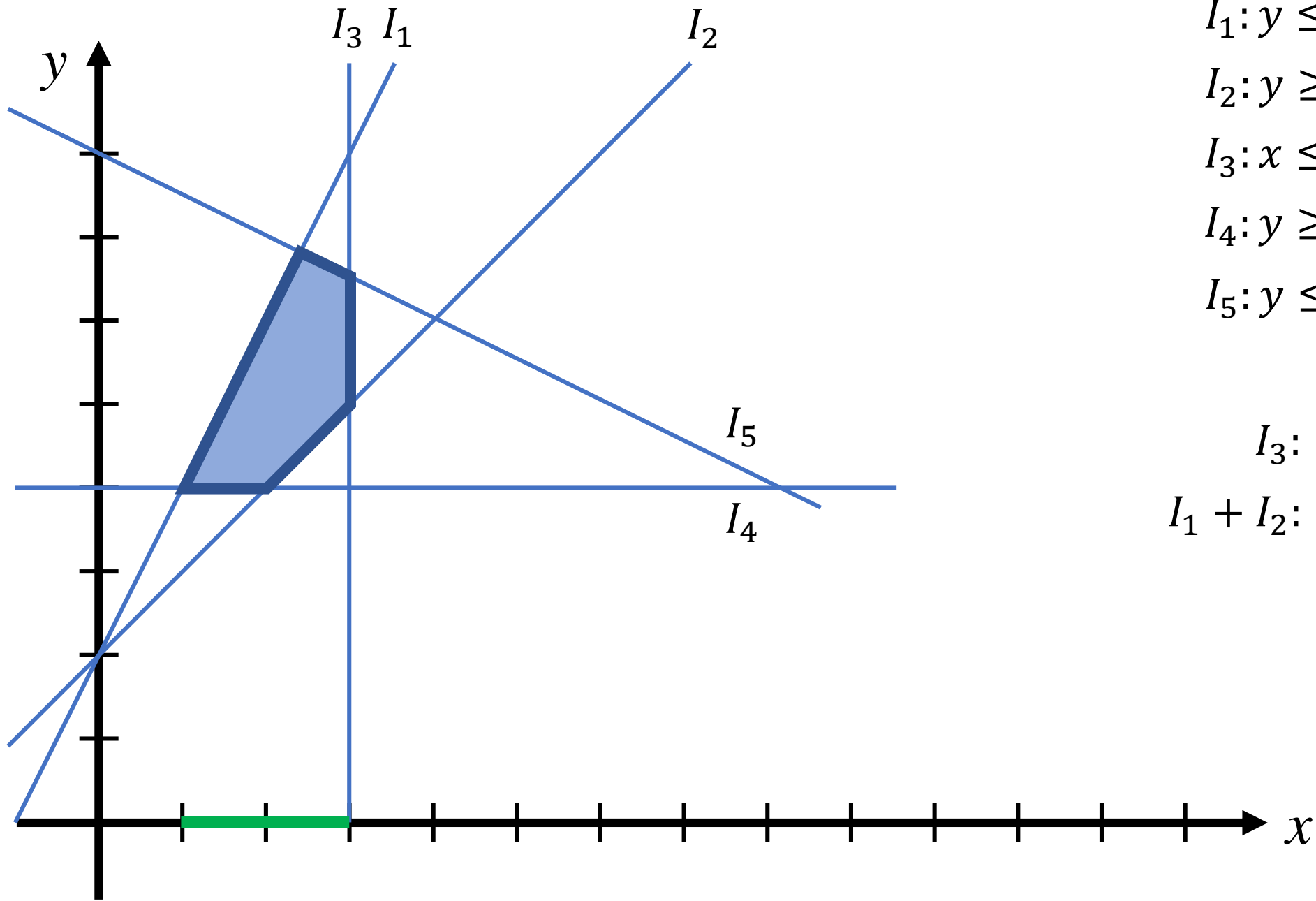
$$I_2: y \geq x + 2$$

$$I_3: x \leq 3$$

$$I_4: y \geq 4$$

$$I_5: y \leq -\frac{x}{2} + 8$$

$$I_3: x \leq 3$$



$$I_1: y \leq 2x + 2$$

$$I_2: y \geq x + 2$$

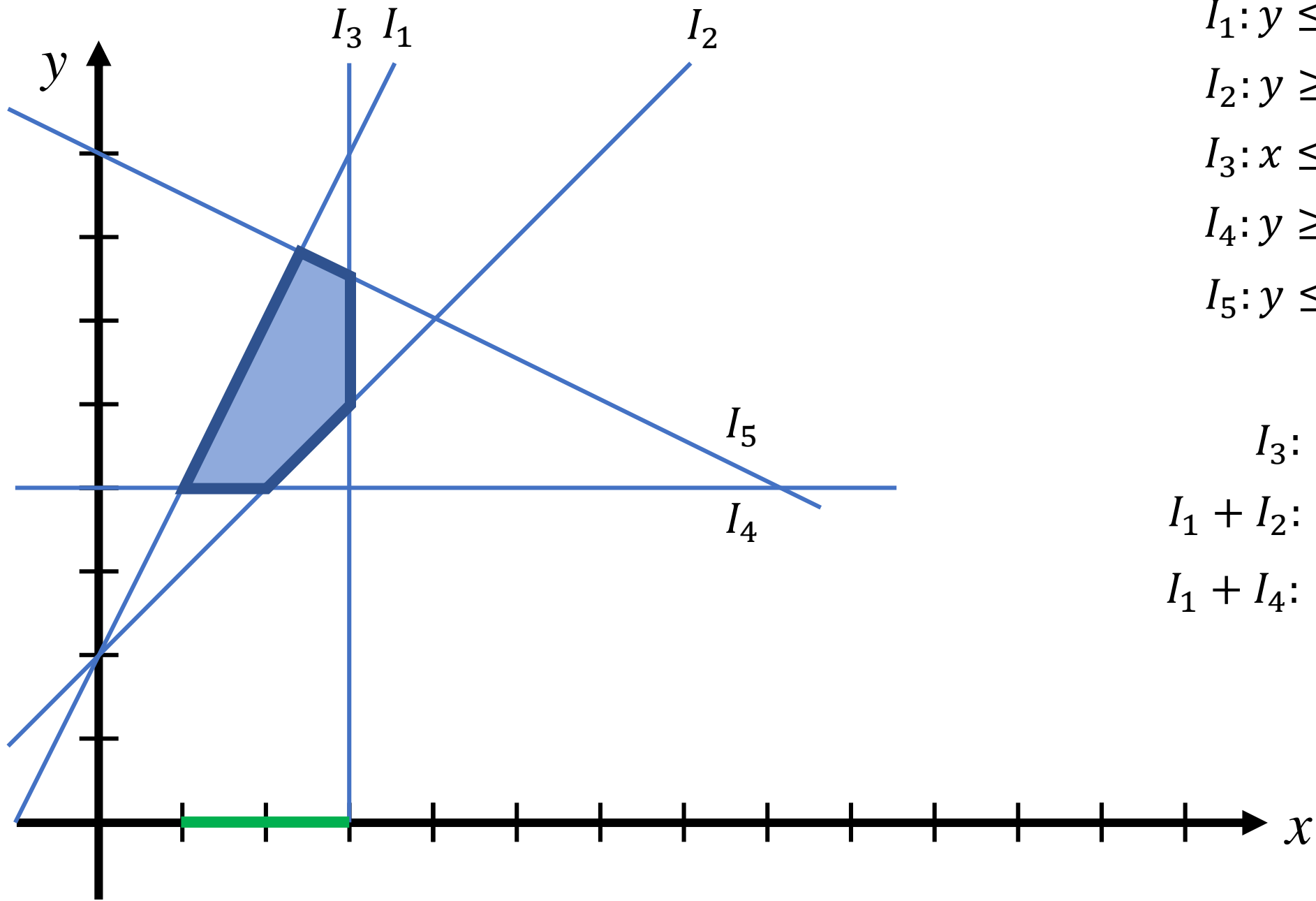
$$I_3: x \leq 3$$

$$I_4: y \geq 4$$

$$I_5: y \leq -\frac{x}{2} + 8$$

$$I_3: x \leq 3$$

$$I_1 + I_2: 2x + 2 \geq y \geq x + 2$$



$$I_1: y \leq 2x + 2$$

$$I_2: y \geq x + 2$$

$$I_3: x \leq 3$$

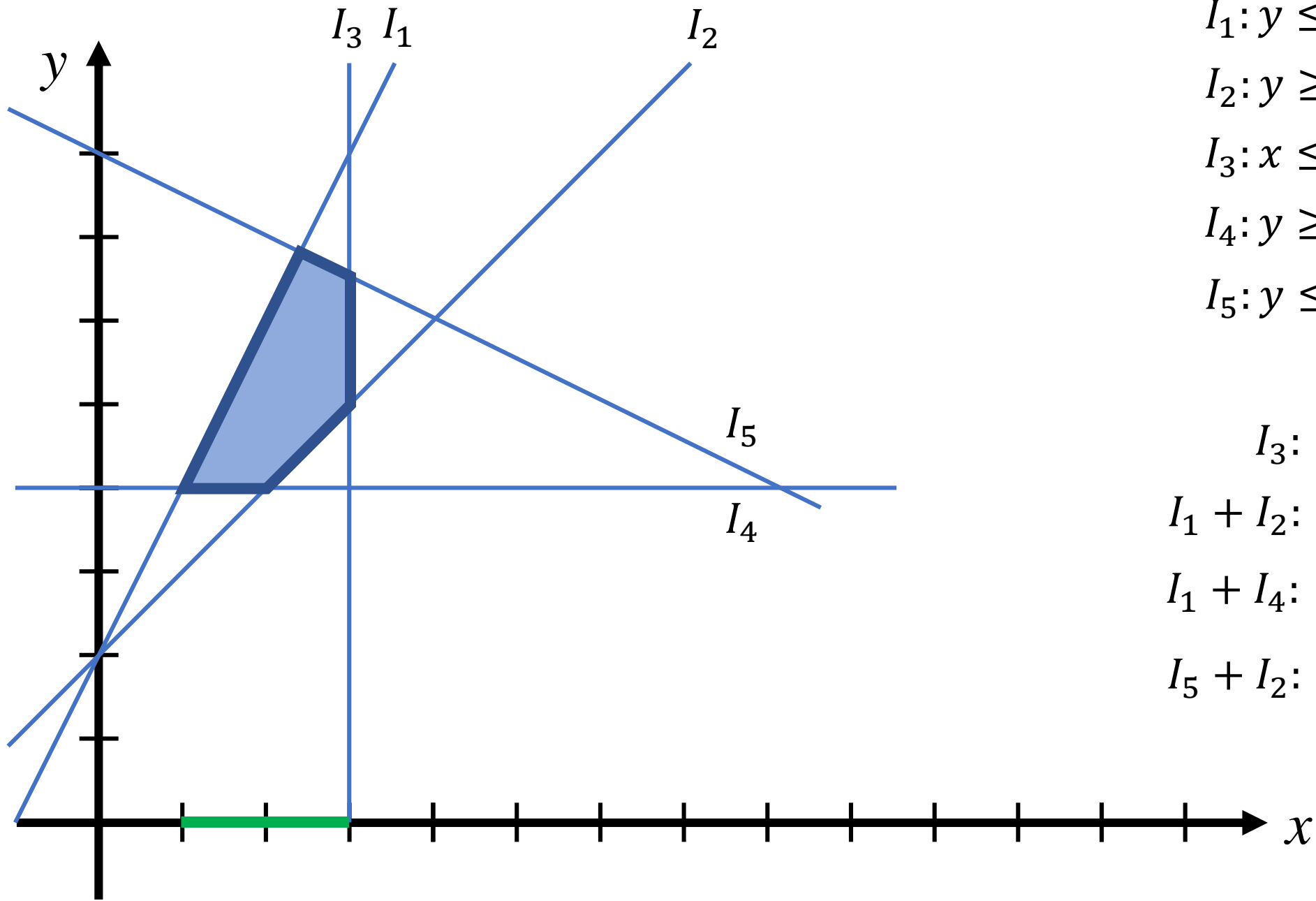
$$I_4: y \geq 4$$

$$I_5: y \leq -\frac{x}{2} + 8$$

$$I_3: x \leq 3$$

$$I_1 + I_2: 2x + 2 \geq y \geq x + 2$$

$$I_1 + I_4: 2x + 2 \geq y \geq 4$$



$$I_1: y \leq 2x + 2$$

$$I_2: y \geq x + 2$$

$$I_3: x \leq 3$$

$$I_4: y \geq 4$$

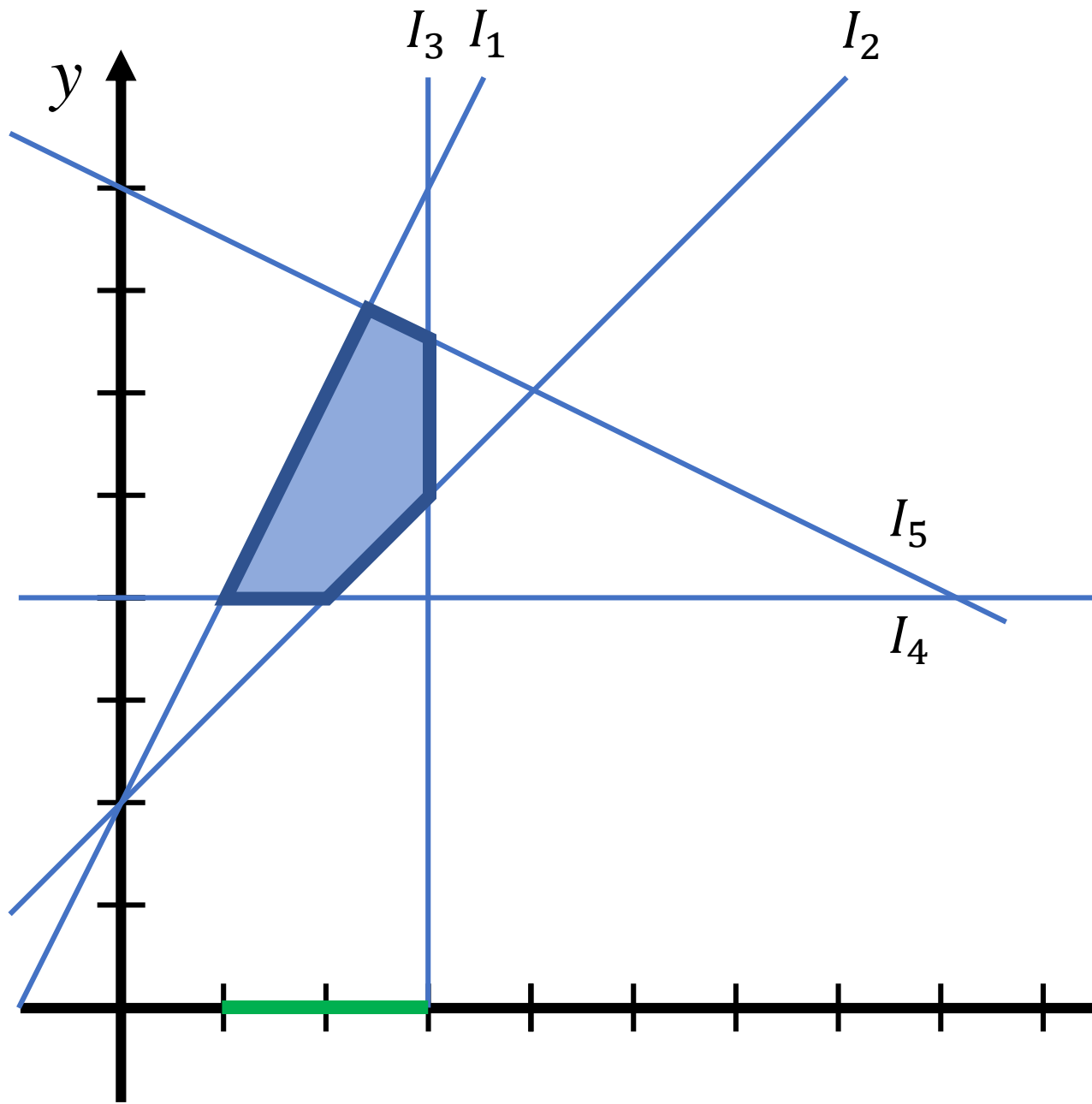
$$I_5: y \leq -\frac{x}{2} + 8$$

$$I_3: x \leq 3$$

$$I_1 + I_2: 2x + 2 \geq y \geq x + 2$$

$$I_1 + I_4: 2x + 2 \geq y \geq 4$$

$$I_5 + I_2: -\frac{x}{2} + 8 \geq y \geq x + 2$$



$$I_1: y \leq 2x + 2$$

$$I_2: y \geq x + 2$$

$$I_3: x \leq 3$$

$$I_4: y \geq 4$$

$$I_5: y \leq -\frac{x}{2} + 8$$

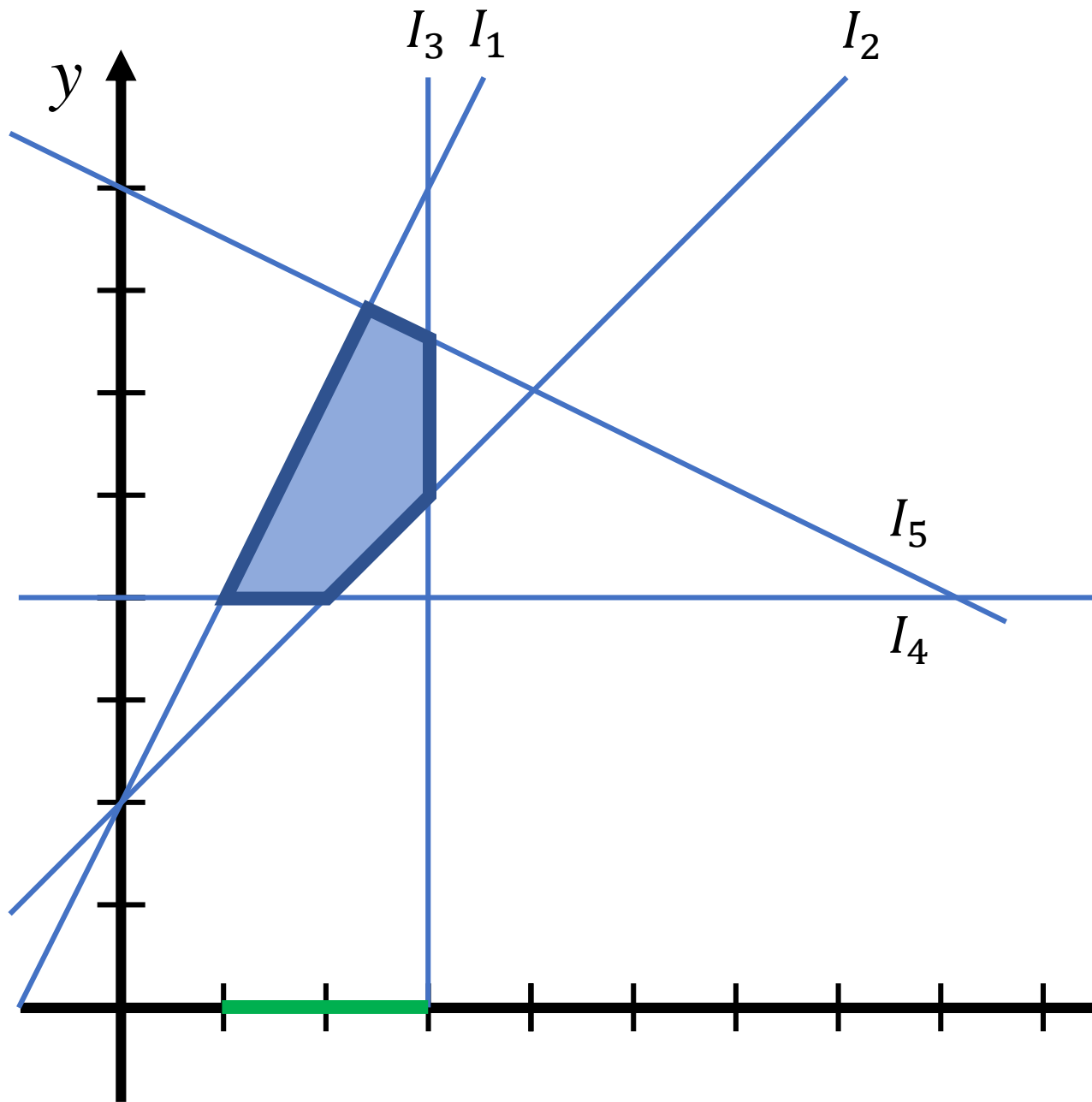
$$I_3: x \leq 3$$

$$I_1 + I_2: 2x + 2 \geq y \geq x + 2$$

$$I_1 + I_4: 2x + 2 \geq y \geq 4$$

$$I_5 + I_2: -\frac{x}{2} + 8 \geq y \geq x + 2$$

$$I_5 + I_4: -\frac{x}{2} + 8 \geq y \geq 4$$



$$I_1: y \leq 2x + 2$$

$$I_2: y \geq x + 2$$

$$I_3: x \leq 3$$

$$I_4: y \geq 4$$

$$I_5: y \leq -\frac{x}{2} + 8$$

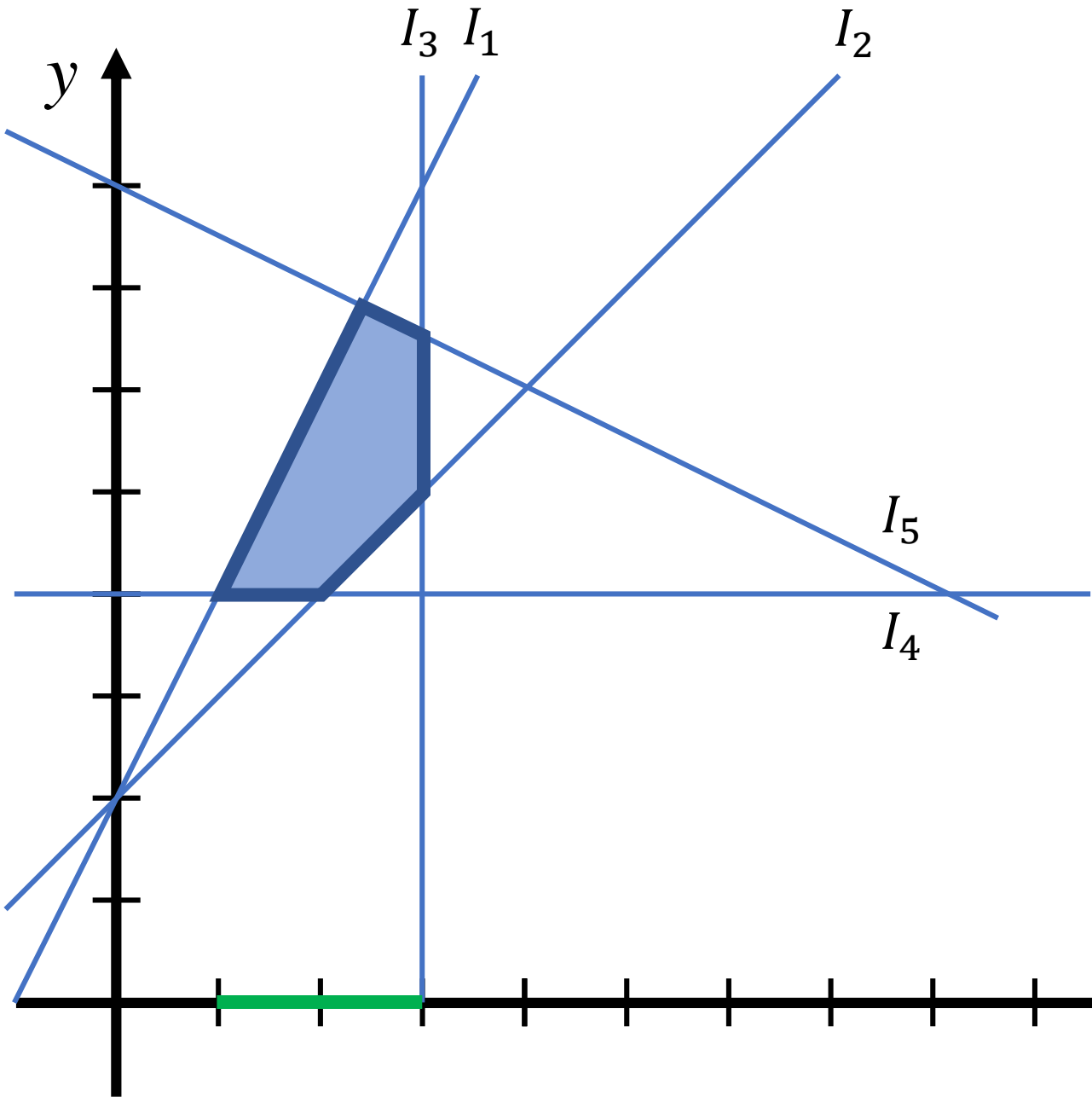
$$I_3: x \leq 3$$

$$I_1 + I_2: 2x + 2 \geq x + 2$$

$$I_1 + I_4: 2x + 2 \geq 4$$

$$I_5 + I_2: -\frac{x}{2} + 8 \geq x + 2$$

$$I_5 + I_4: -\frac{x}{2} + 8 \geq 4$$



$$I_1: y \leq 2x + 2$$

$$I_2: y \geq x + 2$$

$$I_3: x \leq 3$$

$$I_4: y \geq 4$$

$$I_5: y \leq -\frac{x}{2} + 8$$

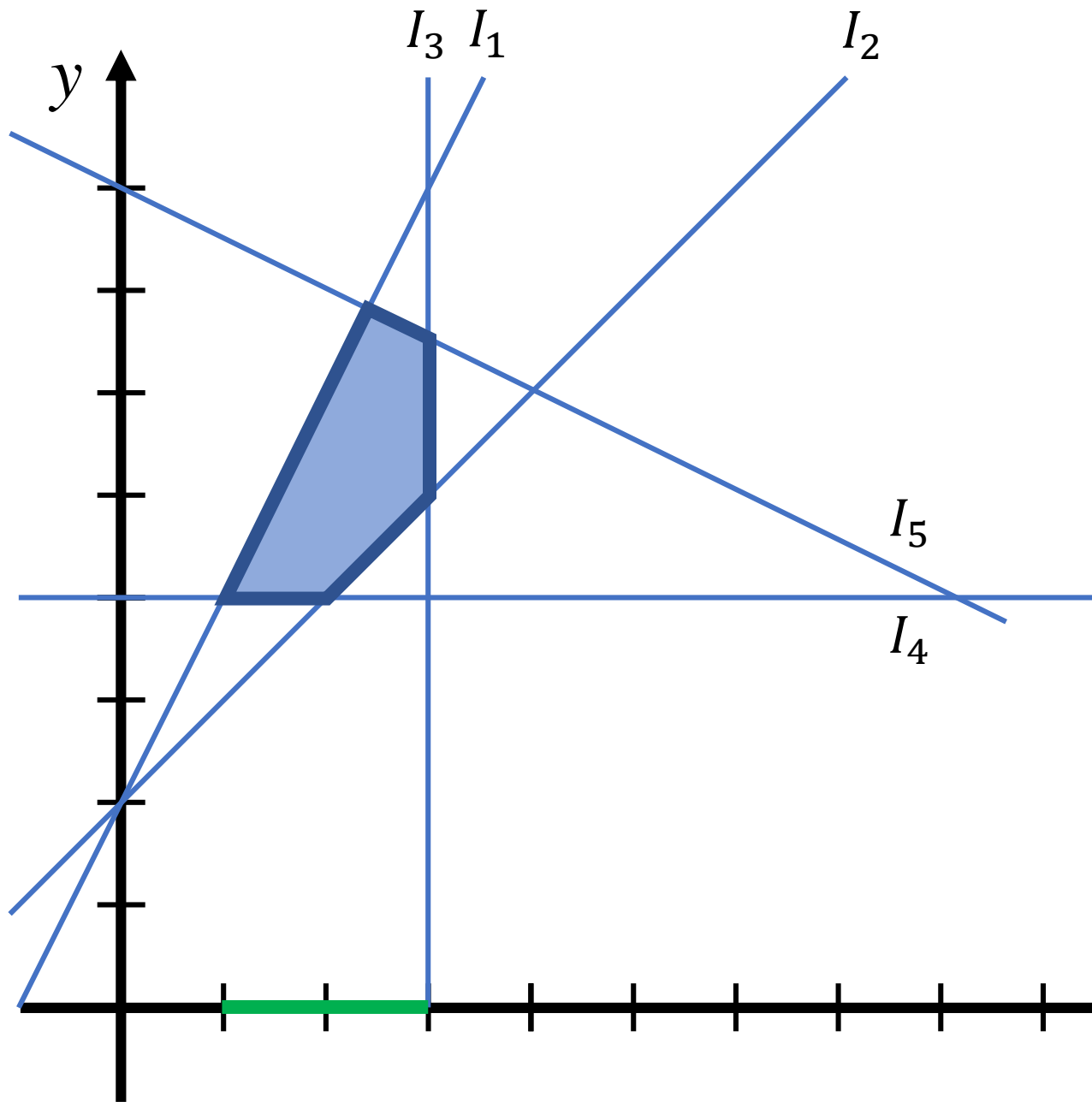
$$I_3: x \leq 3$$

$$I_1 + I_2: x \geq 0$$

$$I_1 + I_4: 2x + 2 \geq 4$$

$$I_5 + I_2: -\frac{x}{2} + 8 \geq x + 2$$

$$I_5 + I_4: -\frac{x}{2} + 8 \geq 4$$



$$I_1: y \leq 2x + 2$$

$$I_2: y \geq x + 2$$

$$I_3: x \leq 3$$

$$I_4: y \geq 4$$

$$I_5: y \leq -\frac{x}{2} + 8$$

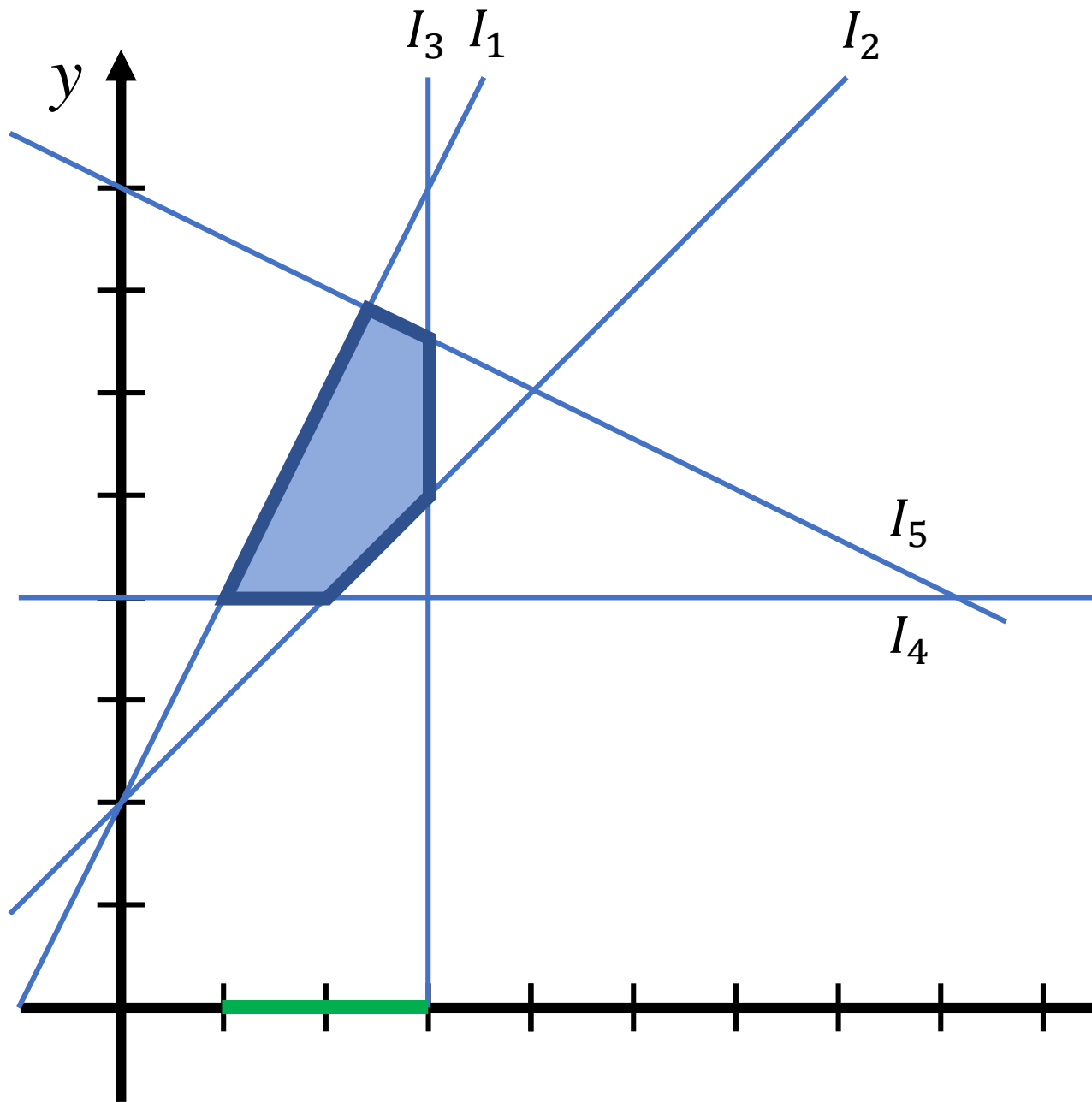
$$I_3: x \leq 3$$

$$I_1 + I_2: x \geq 0$$

$$I_1 + I_4: x \geq 1$$

$$I_5 + I_2: -\frac{x}{2} + 8 \geq x + 2$$

$$I_5 + I_4: -\frac{x}{2} + 8 \geq 4$$



$$I_1: y \leq 2x + 2$$

$$I_2: y \geq x + 2$$

$$I_3: x \leq 3$$

$$I_4: y \geq 4$$

$$I_5: y \leq -\frac{x}{2} + 8$$

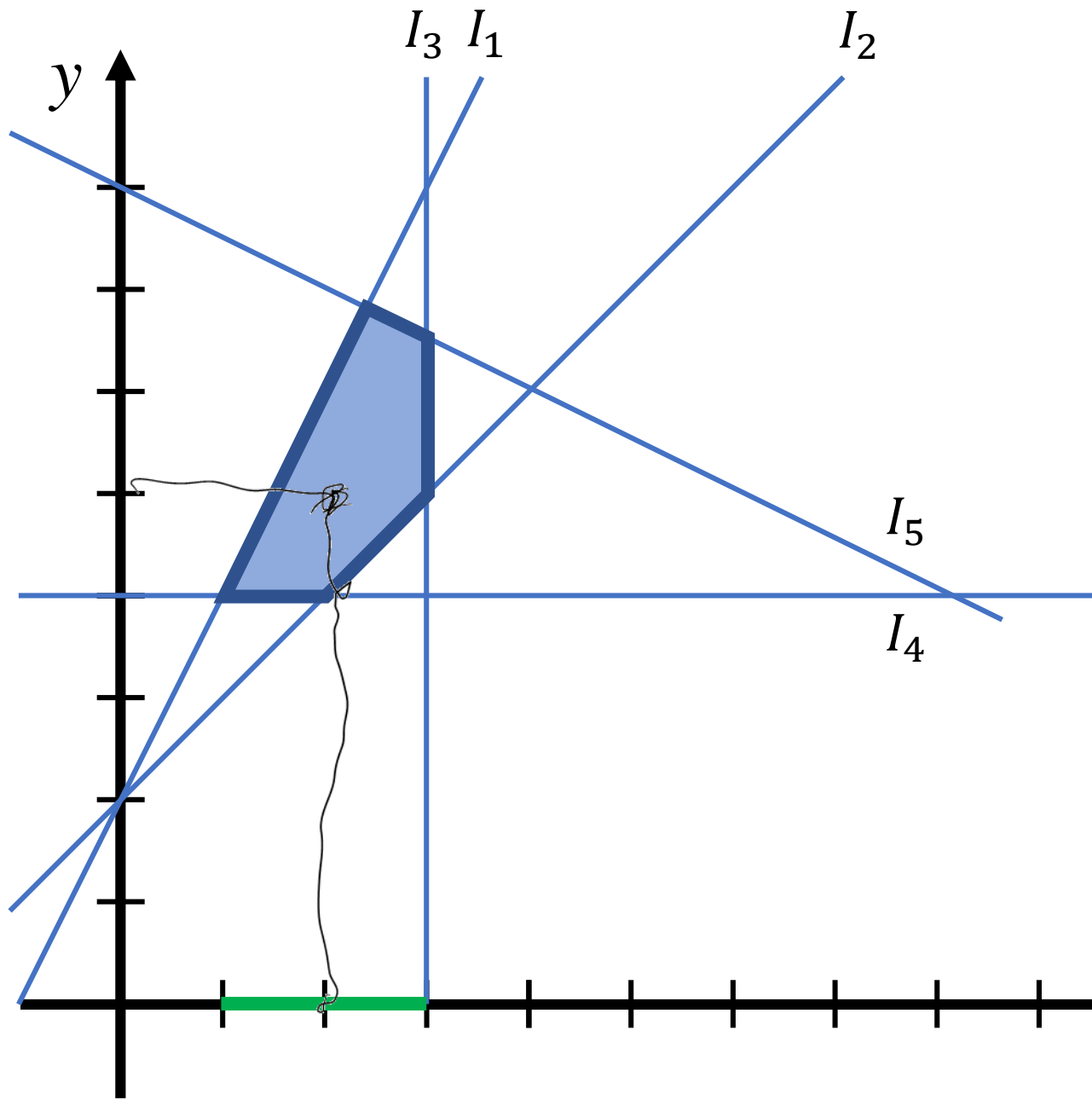
$$I_3: x \leq 3$$

$$I_1 + I_2: x \geq 0$$

$$I_1 + I_4: x \geq 1$$

$$I_5 + I_2: 4 \geq x$$

$$I_5 + I_4: -\frac{x}{2} + 8 \geq 4$$



$$I_1: y \leq 2x + 2 \quad y \leq 6$$

$$I_2: y \geq x + 2 \quad y \geq 4$$

~~$$I_3: x \leq 3$$~~

$$I_4: y \geq 4 \quad y \geq 4$$

$$I_5: y \leq -\frac{x}{2} + 8 \quad y \leq 8$$

$$I_3: x \leq 3$$

$$I_1 + I_2: x \geq 0 \quad x=2$$

$$I_1 + I_4: x \geq 1$$

$$I_5 + I_2: 4 \geq x$$

$$I_5 + I_4: 8 \geq x \quad y=5$$

$$y \geq 4, y \geq 4, y \leq 6, y \leq 8$$