

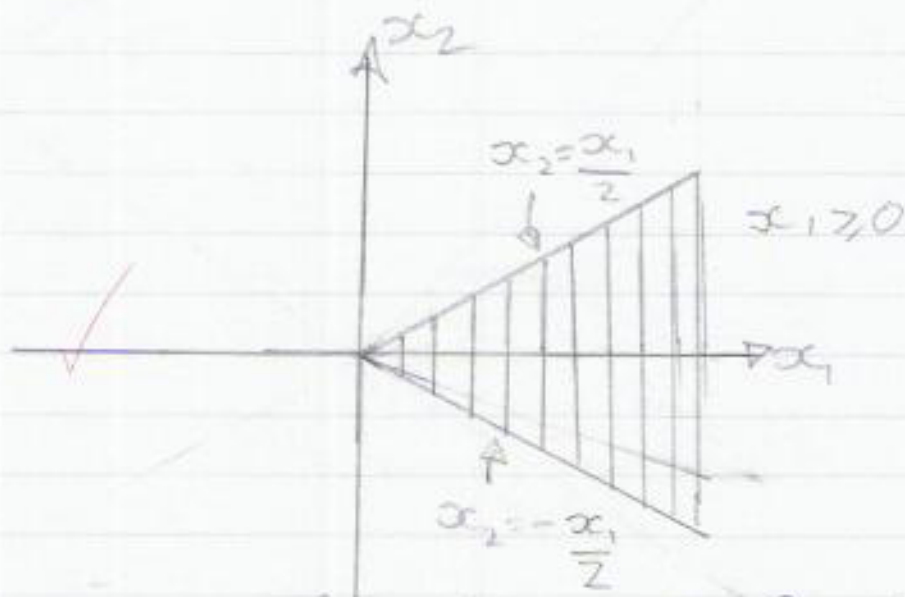
①

$$1) A_n = \left\{ (x_1, x_2) \in \mathbb{R}^2 : |x_2| \leq \frac{n}{n+1} x_1 \right\}$$

$$i) A_1 = \left\{ (x_1, x_2) \in \mathbb{R}^2 : |x_2| \leq \frac{1}{1+1} x_1 \right\}$$

$$\Leftrightarrow |x_2| \leq \frac{x_1}{2}$$

$$-\frac{x_1}{2} \leq x_2 \leq \frac{x_1}{2}$$



There are no solutions for $x_1 < 0$ for then $|x_2| < 0$, which is impossible.

$$A_2 = \left\{ (x_1, x_2) \in \mathbb{R}^2 : |x_2| \leq \frac{2}{2+1} x_1 \right\}$$

$$\Leftrightarrow |x_2| \leq \frac{2x_1}{3}$$

$$-\frac{2x_1}{3} \leq x_2 \leq \frac{2x_1}{3}$$

Again there are no solutions for $x_1 < 0$, because then $|x_2| < 0$ - impossible.

