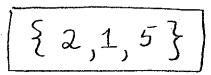
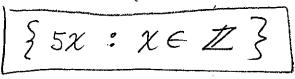
1. Write this set by listing its elements between braces:  $\{x^2 + 1 : x \in \mathbb{Z}, -1 \le x \le 2\}$ 



2. Express the set  $X = \{..., -10, -5, 0, 5, 10, 15, 20, ...\}$  in set-builder notation.

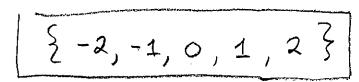


3. If  $A = \{x \in \mathbb{Z} : x^2 < 10\}$ , then |A| =

$$A = \{-3, -2, -1, 0, 1, 2, 3\}$$
  
Therefore  $|A| = 7$ 

4. Find the cardinality of the set  $B = \{\{1, 3\}, \{\{3, 5, 7\}, \{6\}\}, \emptyset, 8, \{8\}\}\}.$ 

1. Write this set by listing its elements between braces:  $\{x \in \mathbb{Z} : |2x| < 5\}$ 



2. Express the set  $X = \{\ldots, \frac{1}{8}, \frac{1}{4}, \frac{1}{2}, 1, 2, 4, 8, \ldots\}$  in set-builder notation.

$$\{2^n: n\in\mathbb{Z}\}$$

3. If  $A = \{x \in \mathbb{Z} : 1 \le x^2 \le 4\}$ , then |A| =

$$A = \{-2, -1, 1, 2\}$$
  
Therefore  $|A| = 4$ 

4. Find the cardinality of the set  $B = \{\{\{1,4\}, a, b, \{3,4\}, \{\emptyset\}\}\}$ .