$E(x) = \dfrac{5x^2 - 5}{x^3 - 2x^2 - x + 2} \Rightarrow A = \{x \in \mathbb{Z} \mid E(x) \in \mathbb{Z}\}$

P.c.

$x^3 - 2x^2 - x + 2 \neq 0 \Leftrightarrow x^2(x-2) - 1 \cdot (x-2) \neq 0 \Leftrightarrow (x-2)(x^2-1) \neq 0$

$\Leftrightarrow (x-2) \cdot (x-1)(x+1) \neq 0 \Leftrightarrow x-2 \neq 0$ ni $x-1 \neq 0$ şi $x+1 \neq 0$

$x \neq 2 \qquad x \neq 1 \qquad x \neq -1$

$\Rightarrow x \in \mathbb{R} \setminus \{2; 1; -1\}$

$5x^2 - 5 = 5(x^2-1) = 5(x-1)(x+1)$

$E(x) = \dfrac{5\cancel{(x-1)}\cancel{(x+1)}}{(x-2)\cancel{(x-1)}\cancel{(x+1)}} = \dfrac{5}{x-2} \Rightarrow$

$E(x) \in \mathbb{Z} \Leftrightarrow \dfrac{5}{x-2} \in \mathbb{Z} \Leftrightarrow (x-2) \mid 5 \Leftrightarrow (x-2) \in D_5 \Leftrightarrow$

$x \in \mathbb{R} \setminus \{2, 1, -1\}$

$\qquad\qquad x - 2 = 1 \qquad x - 2 = -1$

$\qquad\qquad x = 1 + 2 \qquad x = -1 + 2$

$\qquad\qquad x = 3 \qquad\qquad x = 1$

$x - 2 \in \{1, -1, 5, -5\} \Leftrightarrow$

$x \in \{3, 1, 7, -3\} \quad \Rightarrow A = \{3; 7; -3\}$

Dar $x \neq 1$

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$B = \{x \in \mathbb{N} \mid \dfrac{3x+2}{3x-4} \in \mathbb{N}\}$ P.c. $3x - 4 \neq 0 \Leftrightarrow 3x \neq 4 \Leftrightarrow x \neq \dfrac{4}{3}$

$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad x \neq \dfrac{4}{3}$ (A) (A) $x \in \mathbb{N}$

$\begin{cases} \dfrac{3x+2}{3x-4} \end{cases} = \dfrac{\color{red}{3x-4+6}}{\color{red}{3x-4}} = \dfrac{3x-4}{3x-4} + \dfrac{6}{3x-4} = 1 + \dfrac{6}{3x-4}$

$\in \mathbb{N} \qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad 1 \in \mathbb{N}$

$-4 + ? = 2$

$? = 2 + 4 \Rightarrow 6$

$\dfrac{2}{3} + \dfrac{5}{3} = \dfrac{2+5}{3}$

$\dfrac{2+5}{3} = \dfrac{2}{3} + \dfrac{5}{3}$

$\dfrac{3x+2}{3x-4} \in \mathbb{N} \Leftrightarrow \dfrac{6}{3x-4} \in \mathbb{N} \Leftrightarrow (3x-4) \mid 6 \Leftrightarrow$

$3x - 4 \in \{1, 2, 3, 6\} \Leftrightarrow 3x \in \{5, 6, 7, 10\} \Leftrightarrow$

$\qquad\qquad x \in \{\dfrac{5}{3}, \dfrac{6}{3}, \dfrac{7}{3}, \dfrac{10}{3}\} \Leftrightarrow x \in \{\dfrac{5}{3}, 2, \dfrac{7}{3}, \dfrac{10}{3}\} \Rightarrow$

$\qquad\qquad\qquad\qquad x \in \mathbb{N}$

$B = \{2\}$