

abu.1 - BOM / Σε > 53

$$i) \frac{a^3 - 2a^2 + a}{a^2 - a} = \frac{a(a^2 - 2a + 1)}{a \cdot (a - 1)} = \frac{\cancel{a} \cdot (a - 1)^2}{\cancel{a} \cdot (a - 1)} = a - 1$$

$$\{ \text{signon} \} \frac{(a - 1)^2}{a - 1} = \frac{(a - 1) \cdot \cancel{(a - 1)}}{1 \cdot \cancel{(a - 1)}} = a - 1$$

$$ii) \frac{(a^2 - a) + 2a - 2}{a^2 - 1} = \frac{\overbrace{a(a - 1)} + \overbrace{2(a - 1)}}{(a - 1)(a + 1)} = \frac{(a - 1)(a + 2)}{(a - 1)(a + 1)} = \frac{a + 2}{a + 1}$$

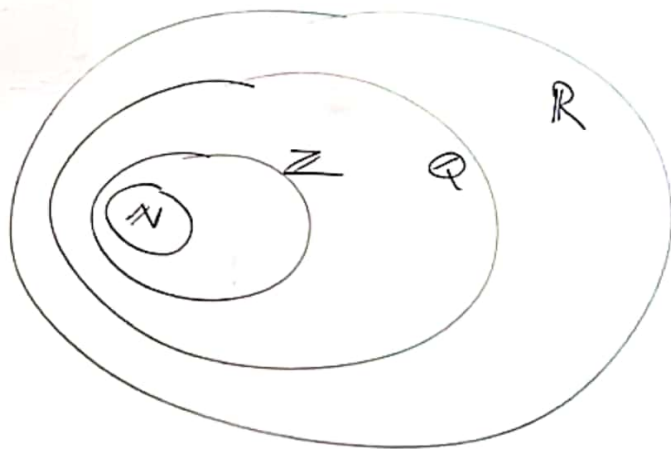
abu.4 - BOM

$$\frac{x^3 + y^3}{x^2 - y^2} : \left(\frac{x^2}{x - y} - \frac{y}{1} \right) = \frac{(x + y) \cdot (x^2 - xy + y^2)}{(x - y) \cdot (x + y)} : \left(\frac{x^2}{x - y} - \frac{y(x - y)}{x - y} \right)$$

$$\frac{x^2 - xy + y^2}{x - y} : \left(\frac{x^2 - y(x - y)}{x - y} \right) = \frac{x^2 - xy + y^2}{x - y} : \frac{x^2 - xy + y^2}{x - y} = \frac{\cancel{x^2 - xy + y^2} \cdot \cancel{x - y}}{\cancel{x - y} \cdot \cancel{x^2 - xy + y^2}} = 1$$

Τα 4 βασικά σύνολα αριθμών

- 1) Των φυσικών αριθμών $\mathbb{N} = \{0, 1, 2, 3, 4, \dots\}$
- 2) Των ακεραίων $\Rightarrow \mathbb{Z} = \{0, \pm 1, \pm 2, \pm 3, \dots\}$
- 3) Των ρηζών $\Rightarrow \mathbb{Q} = \left\{ \text{τα κλάσματα } \frac{k}{\lambda}, k \in \mathbb{K}, \lambda \in \mathbb{Z} \right\}$ ↓ ανήκει
- 4) Των πραγματικών $\Rightarrow \mathbb{R} = \left\{ \text{ρηζοί και οι άρρητοι} \right\}$



$$-5 = \frac{-5}{1}, \quad \frac{2}{3} \in \mathbb{Q}$$

$$\frac{2}{3} \notin \mathbb{Z}, \quad 2,75 \notin \mathbb{Z}$$

$$2,75 = \frac{275}{100} \in \mathbb{Q}, \quad \sqrt{2} \notin \mathbb{Q}, \quad \sqrt{9} \in \mathbb{Q}$$

$$2,77777\dots = 2.\bar{7} \in \mathbb{Q}$$

$$a = 2,77\ldots \Leftrightarrow$$

$$10a = 27,77\ldots$$

$$- \quad a = 2,77\ldots$$

$$9a = 25 \Leftrightarrow$$

$$\frac{9a}{9} = \frac{25}{9}$$

$$a = \frac{25}{9}$$

$$b = 0,323232\ldots = 0,\overline{32}$$

$$y = 1,731731731\ldots = 1,\overline{731}$$

$$d = 0,2353535\ldots = 0,2\overline{35}$$

$$\pi \approx 3.14 \notin \mathbb{Q}$$

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