ΕΥΟΤΥΤΑ 3

**4.** ⓐ $13 - 3 \cdot 5 + (-1) \cdot (-2) =$

$= 13 - 15 + 2 = -2 + 2 = 0.$

ⓑ $5 - 5 \cdot (-3 + 5) - (7 - 8) \cdot (-5 + 3) =$

$= 5 - 5 \cdot 2 - (-1) \cdot (-5 + 3) =$

$= 5 - 10 + 1 \cdot (-2) =$

$= -5 - 2 = -7.$

ⓒ $-3 + 2 \cdot [5 - 3 \cdot (-5 + 7)] =$

$= -3 + 2 \cdot [5 - 3 \cdot 2] =$

$= -3 + 2 \cdot [5 - 6]$

$= -3 + 2 \cdot (-1)$

$= -3 - 2 = -5.$

5. (8) $\Delta = 1 - 2 \cdot \alpha \cdot \beta - \alpha\beta\gamma$

$\alpha = -3$ $\beta = -2$ $\gamma = -1$

$$\Delta = 1 - 2 \cdot (-3)(-2) - (-3)(-2)(-1)$$

$$\Delta = 1 - 12 + 6$$

$$\Delta = -5 .$$

8. ⑧ $B = -2x + 3(1-x) - 2 \cdot (-x+3)$

$B = -2x + 3 - 3x + 2x - 6$

$B = -3x - 3.$

# Ενότητα 4

11. (α) $(x^2+1)(x^3-2) - x^5 =$

$= x^5 - 2x^2 + x^3 - 2 - x^5$

$= x^3 - 2x^2 - 2$ .

(β) $3x^3 - x(3x-1)(x-2)$

$3x^3 - x(3x^2 - 6x - x + 2)$

$3x^3 - x(3x^2 - 7x + 2)$

$3x^3 - 3x^3 + 7x^2 - 2x$

$7x^2 - 2x$.

**15.** $A = \dfrac{(xy^{-2})^3 \cdot (x^2y)^{-1}}{(y^{-1})^7 : (-y)}$

$$A = -\frac{x^3 y^{-6} x^{-2} y^{-1}}{y^{-7} : y^1}$$

$$A = -\frac{x^1 y^{-7}}{y^{-8}}$$

$$A = -x \cdot y.$$

$$A = -2019\left(-\frac{1}{2019}\right) = 1$$

$= 2x + 49x \cdot + 58x + 53.$

# Корвіка Ольга

**1.** $(3x-2)^2 = (3x)^2 - 2 \cdot 3x \cdot 2 + 2^2$

**2.** $-(2x-1)(x-3) = -(2x^2 - 6x - x + 3)$

$= -(2x^2 - 7x + 3)$

$= -2x^2 + 7x - 3$

**3.** $-x^2(x-1)(x+2) =$

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

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

$= -x^4 - x^3 + 2x^2$

**4.** $(-x-4)(x-4) = 4^2 - x^2$

**11.** (B) $(x+5)^2 - (3x-1)^2 + 8x^2 =$

$= x^2 + 10x + 25 - (9x^2 - 6x + 1) + 8x^2 =$

$= x^2 + 10x + 25 - 9x^2 + 6x - 1 + 8x^2 =$

$= 16x + 24$

(δ) $(3x+2)^2 - 3x(x-2)(x+2) - x(2x-1) =$

$= 9x^2 + 12x + 4 - 3x(x^2 - 4) - 2x^2 + x$

$= 9x^2 + 12x + 4 - 3x^3 + 12x - 2x^2 + x$

$= 7x^2 + 25x - 3x^3 + 4$

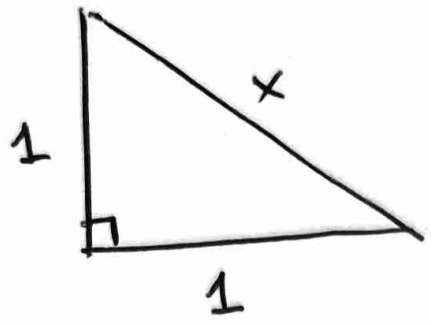
(στ) $-10x^2 + 2(x+3)^3 - (2x-1)^2$

$= -10x^2 + 2(x^3 + 3x^2 \cdot 3 + 3x \cdot 9 + 27) - (4x^2 - 4x + 1)$

$= -10x^2 + 2(x^3 + 9x^2 + 27x + 27) - (4x^2 - 4x + 1)$

$= -10x^2 + 2x^3 + 18x^2 + 54x + 54 - 4x^2 + 4x - 1$

$= 2x^3 + 4x^2 + 58x + 53.$




$x^2 = 1^2 + 1^2$

$x^2 = 2$

$x = \sqrt{2}$

Έστω ότι ο $\sqrt{2}$ ρητός.

$\sqrt{2} = \frac{\alpha}{\beta} \Rightarrow \beta\sqrt{2} = \alpha$

$2\beta^2 = \alpha^2$

$\alpha^2$ άρτιος

$\Rightarrow \alpha$ άρτιος. $\Rightarrow \underline{\alpha = 2k}$

$\beta\sqrt{2} = 2k.$

$2\beta^2 = 4k^2$

$\beta^2 = 2k^2$

$\beta^2$ άρτιος.

$\beta$ άρτιος $\underline{\beta = 2\lambda}$

$\sqrt{2} = \frac{2k}{2\lambda}$ Άτοπο!.

$A = \{1, 2, 3, 4, 5, 6\}$. Αναγραφή

$A = \{x \in \mathbb{N} / \ 1 \leq x \leq 6\}$. περιγραφή

$B = \{2, 3, 5\}$.

$B \subseteq A$

Το $B$ υποσύνολο του $A$

γιατί περιέχεται

σε όλα στοιχεία του $A$.

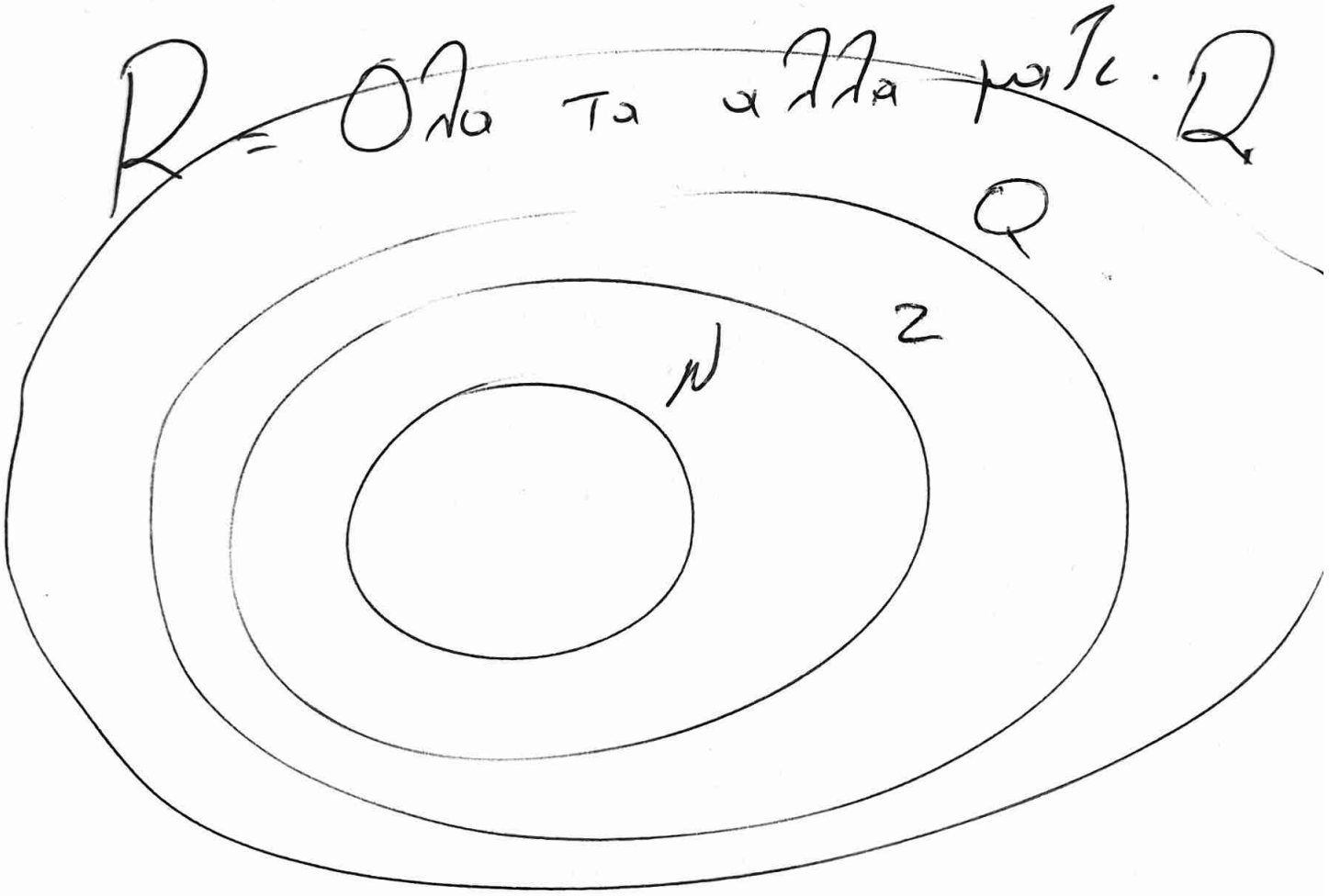
# Γνωστά σύνολα

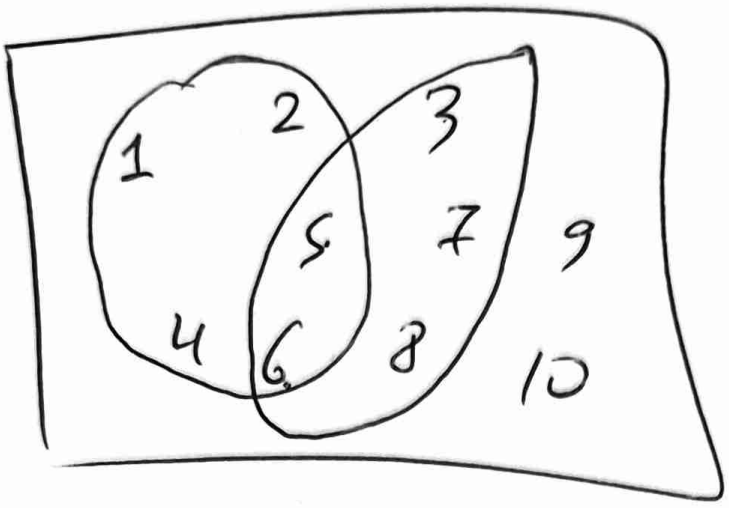
$N = \{0, 1, 2, 3, \ldots\}$. φυσικοί

$Z = \{\ldots, -2, -1, 0, 1, 2, 3, \ldots\}$. ακέραιοι

$Q = \{-0{,}41, 0, 1, 1{,}35, 2{,}24\}$. ρητοί

$R$ = Όλα τα άλλα μαζί. $Q$






Ο

$A = \{1, 2, 5, 4, 6\}$.

$B = \{3, 5, 6, 7, 8\}$

$A \cap B = \{5, 6\}$.

Τομή
"κοινα"

$A \cup B = \{1, 2, 5, 4, 6, 3, 7, 8\}$.

Ενωση.

$A' =$

# Εποχεω μαθημα

Παρασκευη:

## 5

(9) ολη

(10) ολη

(11) α γ ε

(12) ολη.

(17)