

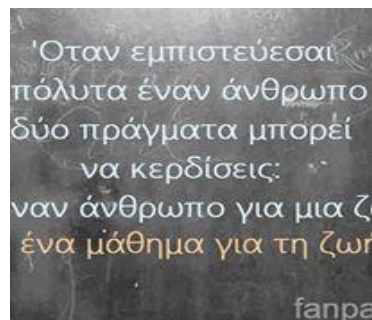
## Διαγνωστική Δοκιμασία Στα Μαθηματικά της

### Α Γυμνασίου Κεφάλαιο 7

Όνοματεπώνυμο Μαθητή: .....

Τμήμα: .....

Ημερομηνία: .....



### Θέμα Α

Να κάνεις τις πράξεις:

α.  $(+3) + (+7) = +(3 + 7) = +10$

β.  $(+9) + (-2) = +(9 - 2) = +7$

γ.  $(-6) + (+5) = -(6 - 5) = -1$

δ.  $(-13) + (-8) = -(13 + 8) = -21$

ε.  $(-10) + (+10) = -10 + 10 = 0$

στ.  $(+2) \cdot (+5) = +(2 \cdot 5) = +10$

ζ.  $(+7) \cdot (-2) = -(7 \cdot 2) = -14$

η.  $\left(-\frac{3}{4}\right) \cdot \left(+\frac{4}{3}\right) = -\left(\frac{3}{4} \cdot \frac{4}{3}\right) = -1$

θ.  $(-1922) \cdot 1 = -(1922 \cdot 1) = -1922$

ι.  $(+1967) \cdot 0 = 0$

ια.  $(-3) \cdot (-4) = +(3 \cdot 4) = +12$

ιβ.  $(+9) : (+3) = +(9 : 3) = +3$

ιγ.  $(-12) : (-4) = +(12 : 4) = +3$

ιδ.  $(+16) : (-8) = -(16 : 8) = -2$

ιε.  $(-25) : (+5) = -(25 : 5) = -5$

ιστ.  $\left(+\frac{4}{7}\right) : \left(-\frac{8}{28}\right) = -\left(\frac{4}{7} : \frac{8}{28}\right) = -\left(\frac{4 \cdot 28}{7 \cdot 8}\right) = -\frac{4}{2} = -2$

### Θέμα Β

Να κάνεις τις πράξεις:

α.  $(+1) + (-2) + (+3) + (-4) = (+1) + (+3) + (-2) + (-4) = (+4) + (-6) = -(6 - 4) = -2$

β.  $(+4) - (-2) + (-3) - (+4) = (+4) + (-4) + (+2) + (-3) = (+2) + (-3) = -(3 - 2) = -1$

γ.  $3 - 7 + 6 + 2016 + 7 - 9 = 3 + 6 + 7 - 7 - 9 + 2016 = 2016$

δ.  $(-3) \cdot (-5) \cdot (+10) \cdot (-1) \cdot (-2) = +(3 \cdot 5 \cdot 10 \cdot 1 \cdot 2) = +300$

ε.  $(-1) \cdot (+2) \cdot (-3) \cdot (-10) \cdot (+2) = -(1 \cdot 2 \cdot 3 \cdot 10 \cdot 2) = -120$

στ.  $(7 - 1 - 8 + 2) - (5 - 4 + 3 - 5) = (7 + 2 - 1 - 8) + (-5 + 5 + 4 - 3) = (9 - 9) + (4 - 3) = 0 + 1 = 1$

ζ.  $(1 - 3) \cdot (12 - 2) \cdot (99 - 100) \cdot (-6 : 6) = (-2) \cdot (+10) \cdot (-1) \cdot (-1) = -(2 \cdot 10 \cdot 1 \cdot 1) = -20$

η.  $[2 \cdot (-7) + 4 \cdot (-4)] : (20 - 4) = (-14 - 16) : 16 = (-30) : 16 = -15 : 8$

θ.  $(x + 3) \cdot (\psi + 2) = x \cdot \psi + 2 \cdot x + 3 \cdot \psi + 6$

ι.  $(\alpha - 5) \cdot (\beta - 3) = \alpha \cdot \beta - 3 \cdot \alpha - 5 \cdot \beta + 15$

### Θέμα Γ

Α. Να συμπληρώσεις τα κενά στις παρακάτω ισότητες

α.  $\alpha^v \cdot \alpha^m = \alpha^{v+m}$     β.  $\alpha^v : \alpha^m = \alpha^{v-m}$     γ.  $\alpha^v \cdot \beta^v = (\alpha \cdot \beta)^v$     δ.  $\alpha^{-v} = \left(\frac{1}{\alpha}\right)^v = \frac{1}{\alpha^v}$

$$\epsilon. \alpha^v : \beta^v = \left(\frac{\alpha}{\beta}\right)^v \quad \sigma\tau. (\alpha^v)^\mu = \alpha^{v\cdot\mu} \quad \zeta. \alpha^0 = 1, \quad \mu\epsilon \alpha \neq 0$$

Β. Να υπολογίσεις τις παρακάτω δυνάμεις:

$$\alpha. 0^{1453} = 0 \quad \beta. (-1)^{100} = 1 \quad \gamma. (-1)^{2015} = -1 \quad \delta. 10^3 = 1000 \quad \epsilon. 10^{-3} = \frac{1}{10^3} = \frac{1}{1000} = 0.001$$

### Θέμα Δ

Με τη χρήση των ιδιοτήτων των δυνάμεων να εκφράσεις σαν μία δύναμη τις παρακάτω παραστάσεις:

$$\alpha. 3^2 \cdot 3^3 = 3^{2+3} = 3^5$$

$$\zeta. 3^{-2} = \left(\frac{1}{3}\right)^2$$

$$\beta. 2^5 : 2^3 = 2^{5-3} = 2^2$$

$$\eta. \left(\frac{1}{3}\right)^{-1} = 3^1$$

$$\gamma. 3^4 \cdot 2^4 = (3 \cdot 2)^4 = 6^4$$

$$\theta. (-2^2)^{-4} = (2^2)^{-4} = 2^{-8} = \left(\frac{1}{2}\right)^8$$

$$\delta. 10^7 : 2^7 = \left(\frac{10}{2}\right)^7 = 5^7$$

$$\iota. \left(-\frac{2}{3}\right)^3 \cdot \left(-\frac{9}{2}\right)^3 = \left[\left(-\frac{2}{3}\right) \cdot \left(-\frac{9}{2}\right)\right]^3 = \left(\frac{2}{3} \cdot \frac{9}{2}\right)^3 = 3^3$$

$$\epsilon. (3^5)^2 = 3^{5 \cdot 2} = 3^{10}$$

$$\iota\alpha. 3^6 \cdot 3^4 \cdot 3^{-7} = 3^{6+4+(-7)} = 3^{10-7} = 3^3$$

$$\sigma\tau. (-5)^0 = 1$$

$$\iota\beta. \frac{2^{10} \cdot 2^2}{2^8} = \frac{2^{10+2}}{2^8} = \frac{2^{12}}{2^8} = 2^{12-8} = 2^4$$

**Ελπίζω να σας βοήθησα!!!**