

ΑΣΚΗΣΕΙΣ ΣΕ ΠΡΑΞΕΙΣ

A. Βγάζετε παρενθέσεις, κάνετε πράξεις, τσεκάρτε το αποτέλεσμα και επαναλαμβάνετε αν δεν είναι το σωστό !

$$1. (-2-3)-(4-5)+(-1+6)-(-9+8) = \text{Απ: } 2 \quad 2. -(9-6)+(-1-2)-(3+4)+(5-6) = \text{Απ: } -14$$

$$-2-3-4+5-1+6+9-8 = 20-18 = 2 \quad -9+6-1-2-3-4+5-6 = 11-25 = -14$$

$$3. -(4-8)+(-3-7)-(-1+6)+(-2+5) = \text{Απ: } -8 \quad 4. (-5+9)+(6-4)-(3-2)+(-1-8) = \text{Απ: } -4$$

$$-4+8-3-7+1-6-2+5 = 14-22 = -8 \quad -5+9+6-4-3+2-1-8 = 17-21 = -4$$

$$5. -[-(1-3)+(2-4)]+[(-7+9)-(6-8)] = \text{Απ: } 4 \quad 6. [-(3-9)+(-4-1)]-[5-(6-7)] = \text{Απ: } -5$$

$$1-3-2+4-7+9-6+8 = 22-18 = 4 \quad -3+9-4-1-5+6-7 = 15-20 = -5$$

$$7. (-2) \cdot (-3+5) - (-8:2) \cdot (4-6) = \text{Απ: } -12 \quad 8. (-7-2):(-1+4) - (9-5):(5-3) = \text{Απ: } -5$$

$$-4 - (-4)(-2) = -4 - 8 = -12 \quad -9:3 - (+4):2 = -3 - 2 = -5$$

$$9. [6:(-3)] - [-8:(-4)] + (-1-2) \cdot (8-9) = \text{Απ: } -1 \quad 10. -8:[-4+3 \cdot 2] - [(-5-4):(4-1)] = \text{Απ: } -1$$

$$-2 - 2 + 3 = -1 \quad -8:2 - (-9):3 = -4 + 3 = -1$$

B. Ό,τι και για την A, αλλά με κλάσματα !

$$1. \left(\frac{1}{2}-1\right) - \left(2-\frac{3}{4}\right) + \left(-\frac{1}{3}-\frac{1}{2}\right) = \text{Απ: } -\frac{31}{12} \quad 2. -\left(\frac{2}{3}-\frac{3}{4}\right) + \left(-\frac{1}{2}-\frac{2}{3}\right) - \left(-1+\frac{2}{3}\right) = \text{Απ: } -\frac{3}{4}$$

$$-\frac{1}{2} - \frac{5}{4} - \frac{5}{6} = -\frac{31}{12} \quad \frac{1}{12} - \frac{7}{6} + \frac{1}{3} = -\frac{3}{4}$$

$$3. \left(-\frac{2}{3}\right) \cdot \left(-\frac{3}{5}\right) - \left(-\frac{4}{5}\right) : \left(\frac{3}{5}\right) \cdot \left(-\frac{3}{4}\right) = \text{Απ: } -\frac{3}{5} \quad 4. \left(1-\frac{5}{3}\right) \cdot \left(-2-\frac{1}{2}\right) - \left(-\frac{7}{3}\right) : \left(\frac{7}{5}\right) = \text{Απ: } \frac{10}{3}$$

$$\frac{2}{5} - \left(-\frac{4}{5}\right) \cdot \frac{5}{3} \cdot \left(-\frac{3}{4}\right) = \frac{2}{5} - 1 = -\frac{3}{5} \quad -\frac{2}{3} \cdot \left(-\frac{5}{2}\right) + \left(\frac{7}{3}\right) \cdot \frac{5}{7} = \frac{10}{3}$$

Γ. Συνδυάζουμε τα προηγούμενα και κάνουμε το ίδιο.

$$1. (-3+7) : (-1-1) \cdot \left(1-\frac{2}{3}\right) - \left(1+\frac{1}{2}\right) : \left(-1-\frac{1}{3}\right) = \text{Απ: } \frac{11}{24}$$

$$4 : (-2) \cdot \frac{1}{3} - \frac{3}{2} \cdot \left(-\frac{3}{4}\right) = -\frac{2}{3} + \frac{9}{8} = \frac{11}{24}$$

$$2. \left(\frac{1}{2}-\frac{1}{3}\right) : \frac{-5}{-4-2} - \left(2-\frac{7}{3}\right) : \left(\frac{1+3}{3}-1\right) - \left(-1-\frac{4}{5}\right) = \text{Απ: } 3$$

$$\frac{1}{6} \cdot \frac{6}{5} - \left(-\frac{1}{3}\right) \cdot 3 + \frac{9}{5} = \frac{1}{5} + 1 + \frac{9}{5} = 3$$

$$3. \left(\frac{-2}{3}-\frac{1}{-4}+\frac{5}{-6}\right) : \left(1+\frac{1}{4}\right) - (-9:3) - \left(-\frac{1}{2}+\frac{1}{3}\right) \cdot (-1-5) = \text{Απ: } -0$$

$$\left(-\frac{2}{3}+\frac{1}{4}-\frac{5}{6}\right) \cdot \frac{4}{5} - (-3) - \left(-\frac{1}{6}\right) \cdot (-6) = -\frac{5}{2} \cdot \frac{4}{5} + 3 - 1 = 0$$

$$4. \left[-\left(\frac{2}{3}-\frac{1}{2}\right)\right] - \left[2-\left(-\frac{3}{4}\right) : \left(-\frac{3}{5}\right)\right] - \left[-2 \cdot \left(\frac{1}{3}-1\right) + \frac{2}{3}\right] = \text{Απ: } -\frac{35}{12}$$

$$-\frac{1}{6} - 2 + \frac{5}{4} + 2 \cdot \left(-\frac{2}{3}\right) - \frac{2}{3} = \frac{13}{12} - 4 = -\frac{35}{12}$$

Δ. Πρώτα βγάλτε τις παρενθέσεις και μετά αντικαταστήστε με γράμματα:

$$1. (\alpha - \beta) - (\gamma + \alpha - \beta) + (-\alpha + \gamma - \beta) = \text{αν } \alpha = -3, \beta = 5. \text{ Απ: } -2$$

$$\alpha - \beta - \gamma - \alpha + \beta - \alpha + \gamma - \beta = 3 - 5 = -2$$

$$2. \alpha - (\gamma + \beta) - (\alpha - \gamma) + \beta - (\alpha + \beta) = \text{αν } \alpha = -1, \beta = -2 \text{ Απ: } 3$$

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

$$3. -(\alpha - \beta + \gamma) + (\beta - \gamma) - (\gamma - \alpha) = \text{αν } \beta = 3, \gamma = 2 \text{ Απ: } 0$$

$$-\alpha + \beta - \gamma + \beta - \gamma - \gamma + \alpha = 6 - 6 = 0$$