

التمرين عدد 1 أحسب المجاميع التالية :

$$A = \frac{6}{5} + \sqrt{3} + \left(\frac{-6}{5}\right) , B = (-\sqrt{2}) + \left(\frac{-3}{2}\right) + \sqrt{2} , C = \left[\frac{4}{5} + (-1)\right] + \left(\sqrt{2} + \frac{1}{5}\right)$$

$$D = \left(\frac{-5}{4}\right) + \left[\frac{4}{3} + (-\sqrt{2})\right] , E = \sqrt{5} + (-\sqrt{5}) + \sqrt{5} , F = \left[\left(\frac{-5}{3}\right) + \Pi\right] + \frac{5}{3}$$

$$G = (-2.5) + \frac{2}{3} + \left(\frac{-5}{3}\right) + \frac{5}{2} + (-\Pi) + 1 , H = \sqrt{2} + \frac{7}{4} + (-1) + (-\sqrt{2}) + (-0.75)$$

$$I = -\Pi + \frac{7}{8} + \left(\frac{-11}{12}\right) + \Pi + \frac{2}{3}$$



$I = \frac{-\pi + \pi + \frac{7 \times 3}{8 \times 3} - \frac{11 \times 2}{12 \times 2} + \frac{2 \times 8}{3 \times 8}}{0}$ $= \frac{21}{24} - \frac{22}{24} + \frac{16}{24}$ $= \frac{21 - 22 + 16}{24}$ $= \frac{-1 + 16}{24} = \frac{15}{24} : 3$ $= \frac{5}{8}$	$G = (-2.5) + \frac{2}{3} + \left(\frac{-5}{3}\right) + \frac{5}{2} + (-\pi) + 1$ $= -2.5 + \frac{2}{3} + \frac{2}{3} - \frac{5}{3} - \pi + 1$ $= 0 + \frac{-3}{3} - \pi + 1$ $= -\pi + 1$ $= \pi$ $H = \sqrt{2} - \sqrt{2} + \frac{7}{4} - 0.75 - 1$ $= \frac{7}{4} - 1.75$ $= 1.75 - 1.75$ $= 0$	$A = \frac{6}{5} + \sqrt{3} + \left(\frac{-6}{5}\right)$ $= \sqrt{3}$ $B = (-\sqrt{2}) + \left(\frac{-3}{2}\right) + \sqrt{2}$ $= -\frac{3}{2}$ $C = \left[\frac{4}{5} + (-1)\right] + \left(\sqrt{2} + \frac{1}{5}\right)$ $= \frac{4}{5} + (-1) + \sqrt{2} + \frac{1}{5}$ $= \frac{4}{5} + \frac{1}{5} + (-1) + \sqrt{2}$ $= 1 + (-1) + \sqrt{2}$ $= \sqrt{2}$
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$$A = \left(\frac{1}{3} + \sqrt{2}\right) - (\sqrt{2} + x) + \sqrt{2} \quad B = \left(x - \frac{1}{3}\right) - (x - \sqrt{2}) + x$$

$$C = -\left(\frac{1}{3} + x\right) + (x - \sqrt{2} + \frac{1}{3}) - \left(-x - \frac{1}{3}\right) ;$$

$$D = \left(\frac{22}{7} + a - b\right) - \left[\sqrt{2} - (c - a - \pi) + (-b + c - \sqrt{2})\right]$$

$$E = -\left[1 - (a - \sqrt{2})\right] - \left[\frac{1}{2} + \left(a - \frac{5}{2}\right) - (-1 + \sqrt{2})\right]$$

$$F = -(\sqrt{3} - b) - \left[-(-a + \sqrt{3}) - (a - b) + \sqrt{3}\right]$$

$$\begin{aligned} E &= -\left[1 - (a - \sqrt{2})\right] - \left[\frac{1}{2} + \left(a - \frac{5}{2}\right) - (-1 + \sqrt{2})\right] \\ &= -\left[1 - a + \sqrt{2}\right] - \left[\frac{1}{2} + a - \frac{5}{2} + 1 - \sqrt{2}\right] \\ &= -1 + a - \sqrt{2} - \frac{1}{2} - a + \frac{5}{2} - 1 + \sqrt{2} \\ &= \underbrace{-1 - 1}_{-2} + \underbrace{-\frac{1}{2} + \frac{5}{2}}_{\frac{4}{2}} \\ &= -2 + 2 = 0 \end{aligned}$$

$$\begin{aligned} F &= -(\sqrt{3} - b) - \left[-(-a + \sqrt{3}) - (a - b) + \sqrt{3}\right] \\ &= -\sqrt{3} + b - \left[a - \sqrt{3} - a + b + \sqrt{3}\right] \\ &= -\sqrt{3} + b - a + \sqrt{3} + a - b - \sqrt{3} \\ &= -\sqrt{3} \end{aligned}$$

$$D = \left(\frac{22}{7} + a - b\right) - \left[\sqrt{2} - (c - a - \pi) + (-b + c - \sqrt{2})\right]$$

$$\begin{aligned} &= \frac{22}{7} + a - b - \left[\sqrt{2} - c + a + \pi - b + c - \sqrt{2}\right] \\ &= \frac{22}{7} + a - b - \sqrt{2} + c - a - \pi + b - c + \sqrt{2} \\ &= \frac{22}{7} - \pi \end{aligned}$$

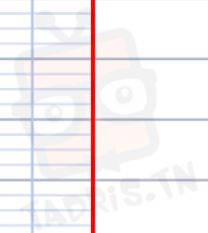
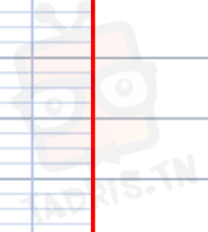


التمرين عدد 3

أوجد القيمة المطلقة لكلّ من الأعداد التالية.

$$a = \sqrt{6} - \sqrt{11} ; b = \sqrt{7} - \sqrt{5} ; c = -\sqrt{3} - 2 \quad d = 2 - \sqrt{2} ; e = -\pi + 3 ;$$

$$f = \sqrt{5} + 1 \quad g = -2 + \sqrt{2} ; h = -\frac{1}{2} + \sqrt{3} ; k = -\sqrt{3} - \sqrt{2} \quad l = -\pi + 3 ; m = 3,14 - \pi$$





$$A = -\sqrt{5} + \left[a - \frac{13}{2} - (-1.5 - b) \right] \quad B = (-3 + a) - \left[\sqrt{5} + \left(\frac{4}{5} - b \right) \right]$$

نعتبر العبارتين

1- اختصر A و B

2- أحسب A-B

3- احسب B إذا كان $a = \sqrt{3} - 2$ و $b = \sqrt{5} + 1$

4- أوجد $a+b$ إذا كان $B = -3$

$$\begin{aligned} A &= -\sqrt{5} + \left[a - \frac{13}{2} + 1.5 + b \right] \\ &= -\sqrt{5} + a - \frac{13}{2} + 1.5 + b \\ &= -\sqrt{5} - 6.5 + 1.5 + a + b \\ &= -\sqrt{5} - 5 + a + b \end{aligned}$$

$$\begin{aligned} B &= -3 + a - \left[\sqrt{5} + \frac{4}{5} - b \right] \\ &= -3 + a - \sqrt{5} - \frac{4}{5} + b \\ &= -\overset{3 \times 5}{3} - \frac{4}{5} - \sqrt{5} + a + b \\ &= -\frac{15}{5} - \frac{4}{5} - \sqrt{5} + a + b \\ B &= -\frac{19}{5} - \sqrt{5} + a + b \end{aligned}$$

$$A - B = -\sqrt{5} - 5 + a + b - \left(-\frac{19}{5} - \sqrt{5} + a + b \right)$$

$$= -\cancel{\sqrt{5}} - 5 + \cancel{a} + \cancel{b} + \frac{19}{5} + \cancel{\sqrt{5}} - \cancel{a} - \cancel{b}$$

$$= \frac{19}{5} - \frac{25}{5}$$

$$= \frac{19}{5} - \frac{25}{5} = -\frac{6}{5}$$

$$B = -\frac{19}{5} - \sqrt{5} + a + b$$

$$a = \sqrt{3} - 2$$

$$b = \sqrt{5} + 1$$

$$B = -\frac{19}{5} - \sqrt{5} + a + b$$

$$B = -\frac{19}{5} - \sqrt{5} + \sqrt{3} - 2 + \sqrt{5} + 1$$

$$= -\frac{2+1}{1} - \frac{19}{5} + \sqrt{3}$$

$$= -1 - \frac{19}{5} + \sqrt{3}$$

$$= -\frac{5}{5} - \frac{19}{5} + \sqrt{3}$$

$$= -\frac{24}{5} + \sqrt{3}$$

$$-\frac{19}{5} - \sqrt{5} + \underbrace{a+b}_{\text{circled}} = -3$$

$$a+b = -3 + \frac{19}{5} + \sqrt{5}$$

$$= -\frac{15}{5} + \frac{19}{5} + \sqrt{5}$$

$$= \frac{4}{5} + \sqrt{5}$$



التمرين رقم 5

نعتبر العبارة $A = -\sqrt{2} - (x - \sqrt{2}) - [4 - (y + \sqrt{2})]$

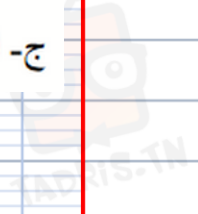
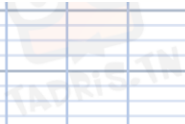
أ- اختصر العبارة A

ب- أوجد $y-x$ إذا كان $A = -11$

ج- احسب A في كل حالة : (1) $x=3$ و $y = -\sqrt{2}$ (2) $x-y=-12$



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ليكن a و b عدنان صحيحان نسبيان :

$$E = -(1-a) + \sqrt{3} - [-b - (1-a)] - (-2-a) ; F = -b - [-\sqrt{3} - (1-a) - b] - (b-2)$$

(1) احسب العبارات التالية علما وأن $a + b = (-10)$.

(2) احسب E إذا كان $a = 2 - b$

(3) احسب F إذا كان a و b متقابلان

(4) أوجد $a + b$ إذا علمت أن F و $\Pi - \sqrt{3}$ متقابلان

(4) جد العدد الصحيح النسبي x في كل من الحالات التالية :

$$1 - (-3 - |x|) = -\Pi ; -2 - (x - \sqrt{3}) = -1 ; -\frac{1}{3} - (x - \sqrt{2}) = -4$$



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التمرين رقم 7

ليكن a و b عدنان صحيحان نسبيا :

(1) احسب العبارات التالية علما وأن $a + b = (-\frac{3}{2})$

$$E = -\Pi - [(-\frac{2}{5}) + (-b - 1.5)] + (1.2 + a) \quad ; \quad F = 1 - [a + (-\frac{3}{2})] - (\Pi + b)$$

(2) احسب E إذا كان a هو مقابل b

(3) احسب F إذا كان a هو مقابل $b - \sqrt{3} - \frac{5}{2}$

(4) جد العدد الصحيح النسبي x في كل من الحالات التالية :

$$\Pi + |x| + \frac{3}{4} = 3 \quad ; \quad \sqrt{2} + [(-\frac{1}{2}) - x] = 0 \quad ; \quad -\Pi - (x + \frac{5}{3}) = 1$$

