

سنة 2009
أحمد فرحات رياضيات
عدد 2
الأستاذ مكي الشاذلي

التمرين (1)

$$a = \sqrt{(-7)^2} = |-7| = 7 \quad / \text{أ} - 1$$

$$b = \sqrt{9+2\sqrt{9}} = \sqrt{3+2\sqrt{3}} \quad / \text{ب}$$
$$= \sqrt{3} = 3$$

$$A = 6\sqrt{2} - 5\sqrt{3} + \sqrt{10} \quad / \text{أ} \quad 2$$

$$= 6\sqrt{2} - 10\sqrt{2} + 5\sqrt{2}$$

$$A = \sqrt{2}$$

$$B = -\sqrt{3} + 3\sqrt{12} - 2\sqrt{27}$$

$$= -\sqrt{3} + 6\sqrt{3} - 6\sqrt{3}$$

$$B = -\sqrt{3}$$

$|A+B|$ حسب / ب

$$|A+B| = |\sqrt{2} - \sqrt{3}|$$

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

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

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

$$C = \sqrt{3} - 4$$

$$D = x - \left(\frac{1}{4} + \sqrt{2} + x\right) - (\sqrt{3} + x) - (-0)$$

$$= x - \frac{1}{4} - \sqrt{2} - x - \sqrt{3} - x + \frac{1}{4}$$

$$D = -\sqrt{3} - x$$

$$|C| = |\sqrt{3} - 4|$$
$$= 4 - \sqrt{3}$$

$$C \cdot D = 1$$

$$(4 + \sqrt{3})(-\sqrt{3} - x) = 1$$

$$x = \frac{(4 - 4\sqrt{3})(4 + \sqrt{3})}{4^2 - \sqrt{3}^2}$$

$$= \frac{(4 - 4\sqrt{3})(4 + \sqrt{3})}{16 - 3}$$

$$= \frac{(4 - 4\sqrt{3})(4 + \sqrt{3})}{13}$$

$$= \frac{16 - 4\sqrt{3} - 16\sqrt{3} - 12}{13}$$

$$x = \frac{4 - 20\sqrt{3}}{13}$$

$$a \cdot b = 1$$

التعويض 3
/1

$$(\sqrt{5} - 2)(\sqrt{5} + 2)$$

$$= (\sqrt{5})^2 - 2^2$$

$$= 5 - 4$$

$$= 1$$

$$E = (\sqrt{3} + 1)(\sqrt{3} - 2) \quad /2$$

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

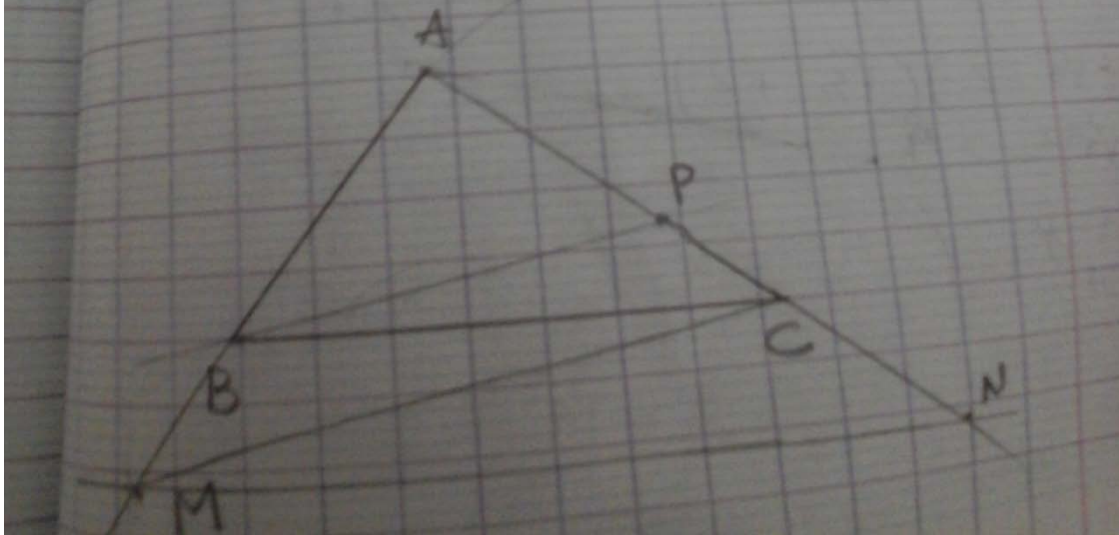
$$E = 1 - \sqrt{3}$$

$$F = (\sqrt{2} - 1)(\sqrt{3} - 2) + (\sqrt{2} - 1)(1 + 2\sqrt{3}) \quad /3$$

$$= (\sqrt{2} - 1) \cdot (\sqrt{3} - 2 + 1 + 2\sqrt{3})$$

$$= (\sqrt{2} - 1) \cdot (3\sqrt{3} - 1)$$

التحريك 4



لنا $C \in [AN]$ و $B \in [AM]$ و $(MN) \parallel (BC)$
 بإدراكنا من نظرية طاليس

$$\frac{AB}{AM} = \frac{AC}{AN} = \frac{BC}{MN}$$

$$\Rightarrow MN = \frac{AM \cdot BC}{AB}$$

$$= \frac{6 \times 6}{4}$$

$$= \frac{36}{4}$$

$$= \frac{18}{2}$$

$$MN = 9 \text{ cm}$$

$$AN = \frac{AM \cdot AC}{AB} = \frac{6 \times 5}{4} = \frac{30}{4} =$$

$$AN = 7,5 \text{ cm}$$

$$CN = AN - AC = 7,5 - 5 = 2,5$$

[AC] ∈ P

[AM] ∈ B

(AC) // (BP)

بناءً على طريقة طالب

$$\frac{AB}{AM} = \frac{AP}{AC} = \frac{BP}{MC}$$

$$\Rightarrow AP = \frac{AC \cdot AB}{AM}$$

$$= \frac{5 \times 4}{6}$$

$$= \frac{20}{6} = \frac{10}{3}$$

$$AP = 3,3 \text{ cm}$$