

تصحيح الفرض الأول النموذج 9 للدورة الأولى

التمرين 1 :

(1) أحسب ما يلي :

$$\sqrt{81} = \sqrt{9^2} = 9$$

$$\sqrt{11^2} = 11$$

$$\frac{\sqrt{16}}{\sqrt{4}} = \frac{4}{2} = 2$$

$$\sqrt{169} + \sqrt{100} = \sqrt{13^2} + \sqrt{10^2}$$

$$= 13 + 10 = 23$$

$$\sqrt{12,5} \times \sqrt{2} = \sqrt{12,5 \times 2} = \sqrt{25} = 5$$

(2) بسط ما يلي :

$$A = 7\sqrt{2} - 3\sqrt{2} + \sqrt{2}$$

$$= \sqrt{2}(7 - 3 + 1) = 5\sqrt{2}$$

$$B = 2\sqrt{4} \times \sqrt{10^2} = 2 \times 2 \times 10 = 40$$

$$C = 6\sqrt{3} + \sqrt{27} - 3\sqrt{12}$$

$$= 6\sqrt{3} + \sqrt{9 \times 3} - 3\sqrt{4 \times 3}$$

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

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

$$D = \sqrt{24 - \sqrt{64}} = \sqrt{24 - \sqrt{8^2}}$$

$$= \sqrt{24 - 8} = \sqrt{16} = 4$$

(3) اجعل مقام العددين E و F صحيحا :

$$E = \frac{1}{2\sqrt{3}} = \frac{1 \times \sqrt{3}}{2\sqrt{3} \times \sqrt{3}} = \frac{\sqrt{3}}{2\sqrt{3}^2} = \frac{\sqrt{3}}{6}$$

$$F = \frac{\sqrt{2}}{\sqrt{5} + \sqrt{3}} = \frac{\sqrt{2}(\sqrt{5} - \sqrt{3})}{(\sqrt{5} + \sqrt{3})(\sqrt{5} - \sqrt{3})}$$

$$= \frac{\sqrt{2}(\sqrt{5} - \sqrt{3})}{\sqrt{5}^2 - \sqrt{3}^2} = \frac{\sqrt{2}(\sqrt{5} - \sqrt{3})}{2}$$

التمرين 2 :

(1) أنشر وبسط :

$$A = 2\left(x - \frac{3}{2}\right) = 2x + 2 \times \left(-\frac{3}{2}\right) = 2x - 3$$

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

$$= 3 - 1 = 2$$

$$C = (x - 2)^2 = x^2 - 2 \times x \times 2 + 2^2$$

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

(2) أ أنشر وبسط :

$$D = (x + 1)^2 - 4(x + 1)$$

$$= x^2 + 2x + 1 - 4x - 4$$

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

(ب) عمل :

$$D = (x + 1)^2 - 4(x + 1)$$

$$= (x + 1)(x + 1 - 4)$$

$$= (x + 1)(x - 3)$$

(3) عمل E

$$E = x^2 - 49 = x^2 - 7^2$$

$$= (x - 7)(x + 7)$$

التمرين 3 :

(1) حدد الكتابة العلمية ل : $0,12 \times 10^{-4}$

$$0,12 \times 10^{-4} = 1,2 \times 10^{-1} \times 10^{-4}$$

$$= 1,2 \times 10^{-5}$$

$$\frac{3^{n-1} \times 9^{3n+2}}{3^{5n+4}} = 3^{2n-1} : \text{بين أن (2)}$$

$$\frac{3^{n-1} \times 9^{3n+2}}{3^{5n+4}} = \frac{3^{n-1} \times (3^2)^{3n+2}}{3^{5n+4}}$$

$$= \frac{3^{n-1} \times 3^{6n+4}}{3^{5n+4}} = \frac{3^{n-1+6n+4}}{3^{5n+4}}$$

$$= \frac{3^{7n+3}}{3^{5n+4}} = 3^{7n+3-(5n+4)}$$

$$= 3^{7n+3-5n-4} = 3^{2n-1}$$

$$\frac{3^{n-1} \times 9^{3n+2}}{3^{5n+4}} = 27 \quad \text{استنتج قيمة } n \text{ حيث : } 27$$

$$\frac{3^{n-1} \times 9^{3n+2}}{3^{5n+4}} = 3^{2n-1} = 27 \quad \text{لدينا}$$

$$3^{2n-1} = 27 \quad \text{إذن}$$

$$3^{2n-1} = 3^3$$

$$2n - 1 = 3$$

$$2n = 3 + 1$$

$$2n = 4$$

$$n = \frac{4}{2}$$

$$n = 2$$