

التمرين (1)

(1) بسط ما يلي:

$$\sqrt{2} \times \sqrt{8} \quad ; \quad \sqrt{5} \times \sqrt{35} \times \sqrt{7} \quad ; \quad \frac{1}{4} \sqrt{5} \times \sqrt{16} \quad ; \quad \sqrt{20} - 10\sqrt{45} \quad ; \quad \frac{\sqrt{4 \times 7}}{\sqrt{2} \times \sqrt{14}} \quad \frac{\sqrt{45}}{\sqrt{20}}$$

$$; \quad 2\sqrt{26} \times 7 \times \sqrt{13} \quad ; \quad \sqrt{25} - 3\sqrt{(-6)^2} + 7(\sqrt{2})^2 \quad ; \quad \frac{4\sqrt{20} \times \sqrt{27} \times \sqrt{32}}{7\sqrt{242} \times \sqrt{2} \times \sqrt{30}}$$

$$3\sqrt{28} - 4\sqrt{27} - \sqrt{7} + 4\sqrt{363} \quad ; \quad -\sqrt{50} + 3\sqrt{32} - 5\sqrt{18} \quad ; \quad (\sqrt{3+\sqrt{2}})^2 - \sqrt{(5+3\sqrt{2})^2} + \sqrt{8}$$

(2) أنشر (a) $(3-\sqrt{5})^2$ ثم استنتج حساب $\sqrt{14-6\sqrt{5}}$

(b) أحسب ما يلي $A = \sqrt{14-6\sqrt{5}} + \sqrt{14+6\sqrt{5}} \quad ; \quad B = \sqrt{14+6\sqrt{5}} \times \sqrt{14-6\sqrt{5}}$

(3) حل المعادلات التالية

$$x^2 - 18 = 0 \quad ; \quad 9x^2 - 7 = -10 \quad ; \quad (3x-1)^2 = 36 \quad ; \quad (5x-\sqrt{7})^2 - 3 = 0$$

(3) أزل الجذر المربع من مقامات الأعداد التالية

$$A = \frac{2}{5\sqrt{3}} \quad ; \quad B = \frac{2-\sqrt{7}}{3\sqrt{5}} \quad ; \quad C = \frac{2+\sqrt{5}}{2-\sqrt{5}} \quad ; \quad D = \frac{1+3\sqrt{2}}{3+\sqrt{2}} \quad ; \quad E = \frac{\sqrt{2}-3\sqrt{3}}{3\sqrt{2}+\sqrt{3}}$$

التمرين (2)

(1) أنشر و بسط ما يلي :

$$A = -3(5x+7) \quad ; \quad B = \sqrt{3}(5x-2\sqrt{3}) \quad ; \quad C = (6x-2)(5x+7) \quad ; \quad D = (\sqrt{7}x-2)(\sqrt{7}-3x)$$

$$E = x(x-2) - 2x(x-4) \quad ; \quad F = (2x+1)^2 \quad ; \quad G = (4x-5)^2 \quad ; \quad H = (x+7)(x-7) \quad ; \quad I = (\sqrt{5}-\sqrt{3})^2$$

$$J = (1+2\sqrt{3})^2 \quad ; \quad K = (\sqrt{5}-2)(\sqrt{5}+2) \quad ; \quad L = (4\sqrt{7}-3)^2 \quad ; \quad M = (2\sqrt{3}-\sqrt{2})(2\sqrt{3}+\sqrt{2})$$

(2) أنشر و بسط ما يلي :

$$A = (5x-7)^2 + 2x(5x-7) \quad ; \quad B = (4x-5)(4x+5) - (x-6)(2x+9) \quad ; \quad C = (4x+1)^2 + (x-2)^2$$

$$D = (\sqrt{2}x-3)^2 - (\sqrt{3}x-\sqrt{6})^2 \quad ; \quad E = (x\sqrt{11}-y\sqrt{3})^2 - (x\sqrt{11}+y\sqrt{3})(x\sqrt{11}-y\sqrt{3})$$

$$F = (-3x+2)(-3x-2) - 3(x-6)(2x+5) \quad ; \quad G = -(2\sqrt{7}-7\sqrt{2})^2 - 28\sqrt{14}$$

(3) عمل ما يلي :

$$A = 5x^2 - 6 \quad ; \quad B = 3(x-5) + (x-5)(3x+7) \quad ; \quad C = (7x-8)^2 - (x+4)(7x-8)$$

$$D = x^2 - 4 + (x+2)(3x+\sqrt{7}) \quad ; \quad E = x^2 + 8x + 16 + (x+7)(x+4) \quad ; \quad F = (4x^2 - 25) - (x-6)(2x+5)$$

$$G = 3x^2 - 2x\sqrt{21} + 7 - 5(\sqrt{3}x - \sqrt{7}) \quad ; \quad H = (3x-7)^2 - (9x^2 - 49) - 5x(3x-7)$$

$$I = (2x-7)^2 - 16 \quad ; \quad J = (3x-1)^2 - (x-3)^2 \quad ; \quad K = (3\sqrt{x}-6)^2 + 8(6-3\sqrt{x}) \quad ; \quad (x \geq 0)$$

$$L = 81(3x-2)^2 - 16 \quad ; \quad M = 2(9x-1)^2 - (x-4)^2$$

التمرين (3)

بسط ما يلي $A = \frac{a^{-5} \times (-a)^4}{a^{-1}} \quad ; \quad B = \frac{a^5 \times b^{-5} \times (-a^8 b^2)^{-3}}{3(-a^3 \times b^5)^{-3} \times a^{-12} \times b^{17}}$