

# الحساب الحرفي

## تمارين توليفية

### تمرين 1

بسط ما يلي :

$$C = \frac{3}{4}x^2 - x + \frac{1}{2}x^2 + \frac{x}{3} + \frac{1}{2} \quad ; \quad B = \frac{7x}{4} - \frac{1}{2}y + 5x + \frac{7}{4}y \quad ; \quad A = \frac{5}{3}x + \frac{7}{2}x - x$$

$$E = \frac{2}{5} - \frac{1}{3}x^2 + x - \frac{5}{2}x^3 + \frac{7}{2} - x^2 + \frac{2}{3}x \quad ; \quad D = -\frac{4}{3}x^3 - 2x + \frac{1}{2}x^2 + x^3 - \frac{2}{3}x - 4$$

### تمرين 2

بسط ما يلي :

$$b = -\left[\frac{5}{3}x - \left(\frac{1}{2} + x\right)\right] - \left(\frac{2}{3}x - \frac{1}{2}x + 4\right) \quad ; \quad a = \frac{2}{3}x - \left(\frac{1}{2} - \frac{5}{2}x^2\right) + \left(\frac{x^2}{2} - x + \frac{5}{3}\right)$$

$$C = \frac{5}{3} - \left(\frac{2}{3}x^2 - 1\right) - \left[\frac{3}{4}x + \left(\frac{2x^2}{3} - \frac{x}{2} + \frac{3}{5}\right) + \left(x + \frac{1}{2}\right) - \frac{3}{2}\right]$$

$$D = \frac{3}{2}x^2 + 2x - \left[-\left(-\frac{5}{3}x^3 - \frac{1}{2}x^2 + x + 6\right) + \frac{2}{3}x - \left(-\frac{x^3}{3}\right)\right]$$

### تمرين 3

أنشر ثم بسط ما يلي :

$$B = 3x \left(\frac{1}{2}x^2 - x - \frac{1}{3}\right) + \frac{4}{3}x(1-x) \quad ; \quad A = \frac{3}{2}x \left(\frac{x}{5} + \frac{1}{2}\right) - \frac{1}{2}x(5x+2)$$

$$C = 2x \left(\frac{3}{2}x^3 - \frac{1}{3}x^2 + x - 1\right) - \frac{1}{2}x \left(x^3 - x^2 + \frac{2}{3}x + 5\right)$$

### تمرين 4

أنشر ثم بسط ما يلي :

$$d = \left(\frac{3}{7}x - \frac{3}{7}\right)^2 \quad ; \quad c = \left(5x - \frac{1}{2}\right)^2 \quad ; \quad b = \left(\frac{3}{4}x + \frac{2}{3}\right)^2 \quad ; \quad a = \left(\frac{2}{3}x + 1\right)^2$$

$$f = \left(\frac{5}{3}x - \frac{1}{2}\right)\left(\frac{5}{3}x + \frac{1}{2}\right) \quad ; \quad e = \left(\frac{2}{5} - \frac{x}{2}\right)\left(\frac{2}{5} + \frac{x}{2}\right)$$

أنشر ثم بسط ما يلي :

$$B = 3x \left( \frac{1}{2} + \frac{x}{4} \right) - \left( \frac{x}{2} + 2 \right)^2 \quad ; ; \quad A = \left( 2x - \frac{1}{2} \right)^2 - \left( \frac{x}{3} + \frac{1}{2} \right) \left( \frac{x}{3} - \frac{1}{2} \right)$$

$$D = \left( 2x - \frac{1}{2} \right)^2 + \left( \frac{2}{3}x + 2 \right) \left( \frac{2}{3}x - 2 \right) - \left( \frac{3}{2} + \frac{x}{3} \right)^2 \quad ; ; \quad C = \left( x + \frac{3}{2} \right)^2 - \frac{5}{2} \left( \frac{1}{2}x^2 + \frac{4}{3}x - 1 \right)$$

عمل ما يلي :

$$b = \left( 5 - \frac{2x}{3} \right) \left( \frac{2}{3}x + 5 \right) - \left( 5 - \frac{2x}{3} \right)^2 + \left( 5 - \frac{2x}{3} \right) \quad ; ; \quad a = \left( \frac{1}{2}x + \frac{7}{2} \right)^2 + \left( \frac{1}{2}x + \frac{7}{2} \right) \left( 3x - \frac{2}{5} \right)$$

$$d = \left( 3x - \frac{1}{2} \right)^2 - 2 \left( 3x - \frac{1}{2} \right) \left( \frac{x}{3} + 5 \right) + \left( \frac{x}{3} + 5 \right)^2 \quad ; ; \quad c = \left( \frac{3}{2}x + 4 \right)^2 - \left( \frac{5}{2} - 2x \right)^2$$

عمل ما يلي :

$$B = \left( 3x + \frac{2}{7} \right) \left( \frac{x}{3} - 1 \right) + \left( 3x + \frac{2}{7} \right)^2 + 3x + \frac{7}{2} \quad ; ; \quad A = (3x - 2) \left( \frac{2}{5}x + 1 \right) - (2 - 3x) \left( \frac{7}{5}x + \frac{1}{2} \right)$$

$$D = \left( \frac{3}{2}x + 11 \right)^2 - 1 + \left( \frac{3}{2}x + 10 \right) (x + 1) \quad ; ; \quad C = \left( \frac{2}{3}x + \frac{7}{2} \right)^2 - \left( \frac{3}{5}x - \frac{2}{7} \right)^2$$

عمل ما يلي :

$$A = 32x^2 - 2$$

$$B = 25x^2 + 20x + 3$$

$$C = \frac{9}{16}x^2 + \frac{9}{4}x - 4$$

$$D = 4x^4 - 12x^2 + 9$$