

فرض تجريبي من اقتراح أذ سمير لخريسي - مدة الانجاز 55 دقيقة

تمرين 1 : لنحسب و نختزل :

$$A = \frac{-1}{3} + \frac{7}{-5} + 2 = \frac{-1}{3} + \frac{-7}{5} + 2 = \frac{-5}{15} + \frac{-21}{15} + \frac{30}{15} = \frac{-26}{15} + \frac{30}{15} = \frac{4}{15}$$

$$B = \frac{8-13}{\frac{1}{3} + \frac{1}{2}} = \frac{-5}{\frac{2}{6} + \frac{3}{6}} = \frac{-5}{\frac{5}{6}} = -5 \times \frac{6}{5} = -6$$

$$C = \frac{2}{7} + \frac{1}{7} \times \frac{5}{3} = \frac{2}{7} + \frac{5}{21} = \frac{6}{21} + \frac{5}{21} = \frac{11}{21}$$

تذكير : بغياب الأقواس نبدأ بعملية الضرب قبل الجمع والطرح ، $\frac{a}{\frac{b}{x}} = \frac{a}{b} \times \frac{y}{x}$ ، $\frac{a}{-b} = \frac{-a}{b}$

تمرين 2 : لننشر و نبسط :

$$C = (5+x)(2+x)$$

$$C = 10 + 5x + 2x + x^2$$

$$C = 10 + 7x + x^2$$

$$B = (1+3x)^2$$

$$B = 1^2 + 2 \times 1 \times 3x + (3x)^2$$

$$B = 1 + 6x + 9x^2$$

$$A = 2(3+x) + 5x$$

$$A = 6 + 2x + 5x$$

$$A = 6 + 7x$$

$$D = \left(\frac{3}{7} - \frac{x}{5}\right) \left(\frac{3}{7} + \frac{x}{5}\right)$$

$$D = \left(\frac{3}{7}\right)^2 - \left(\frac{x}{5}\right)^2$$

$$D = \frac{9}{49} - \frac{x^2}{25}$$

$$E = \frac{1}{3}(x-5) - \frac{1}{2}(1-x) = \frac{x}{3} - \frac{5}{3} - \frac{1}{2} + \frac{x}{2}$$

$$E = \frac{x}{3} + \frac{x}{2} - \frac{5}{3} - \frac{1}{2} = \frac{2x}{6} + \frac{3x}{6} - \frac{10}{6} - \frac{3}{6}$$

$$E = \frac{5x}{6} - \frac{13}{6}$$

تمرين 3 : لنعمل :

$$C = 4x(x+5) - (x-1)(x+5)$$

$$C = (x+5)[4x - (x-1)]$$

$$C = (x+5)[4x - x + 1]$$

$$C = (x+5)(3x+1)$$

$$B = x^3 + x$$

$$B = x(x^2 + 1)$$

$$A = 15 - 5x$$

$$A = 5(3 - x)$$

$$D = (x+1)^2 - 100$$

$$D = (x+1)^2 - 10^2$$

$$D = [(x+2)+10][(x+2)-10]$$

$$D = (x+12)(x-8)$$

$$E = (2x+6) + (x^2 + 6x + 9)$$

$$E = 2(x+3) + x^2 + 2 \times x \times 3 + 3^2$$

$$E = 2(x+3) + (x+3)^2$$

$$E = (x+3)[2 + (x+3)]$$

$$E = (x+3)(x+5)$$

تمرين 4 : لنبسط :

$$K = \frac{a^{30} \times (a \times (a^{-5})^3)^2}{a^{-1} \times a^3} = \frac{a^{30} \times (a \times a^{-15})^2}{a^2} = \frac{a^{30} \times (a^{-14})^2}{a^2} = \frac{a^{30} \times a^{-28}}{a^2} = \frac{a^2}{a^2} = a^0 = 1$$

تمرين 5 :

لدينا a و b متناسبان على التوالي مع $\frac{1}{2}$ و $\frac{-3}{2}$ إذن: $\frac{x}{1} = \frac{y}{-3}$

$$\frac{x}{2} = \frac{y}{-3} = \frac{x+y}{\frac{1}{2} + \frac{-3}{2}} = \frac{5}{-2} = \frac{5}{-1} = -5$$

منه: $\frac{x}{1} = -5$ و $\frac{y}{-3} = -5$

$$x = -5 \times \frac{1}{2} = \frac{-5}{2} \quad \text{و} \quad y = -5 \times \frac{-3}{2} = \frac{15}{2}$$