

Factorisation التعميل

النشر و التبسيط Développement, Réduction

$$(b + c)a = ba + ca$$

$$(b - c)a = ba - ca$$

Règles قواعد

$$a(b + c) = ab + ac$$

$$a(b - c) = ab - ac$$

$$ab + ac = a(b + c)$$

$$ab - ac = a(b - c)$$

$$(a + b)(c + d) = a(c + d) + b(c + d)$$

$$= ac + ad + bc + bd$$

أمثلة : Exemples

$$3b + 15 = 3(b + 5)$$

$$-3b + 15 = -3(b - 5)$$

$$8 - 12x = 4(2 - 3x)$$

$$6a^2 + 21a = -3a(-2a - 7)$$

$$E = (x - 1)(5x + 3) + (x - 1)(-x + 8)$$

$$= (x - 1)[(5x + 3) + (-x + 8)]$$

$$= (x - 1)[5x + 3 - x + 8] = (x - 1)(4x + 11)$$

أمثلة : Exemples

$$A = 3(b + 5) = 3b + 15$$

$$B = -3(b - 5) = -3b + 15$$

$$C = (-2 + 3x)(-4) = 8 - 12x$$

$$D = -3a(-2a - 7) = 6a^2 + 21a$$

$$E = (3 - x)(b + 5) = 3b + 15 - bx - 5x$$

$$F = (2 - 3x)(5b + 4) = 10b + 8 - 15xb - 12x$$

$$G = (-2 + 3x)(2x + 1) = -4x - 2 + 6x^2 + 3x$$

$$= 6x^2 - x - 2$$

$$H = (4 - 5x)(2x + 3) = 8x + 12 - 10x^2 - 15x$$

$$= -10x^2 - 7x + 12$$

تمارين تطبيقية

عمل ما يلي : Factoriser

$$A = -5x^3(3 - x) - 15x^2(x + 2)$$

$$A =$$

$$A =$$

$$B = (-2x + 3)(3x - 5) - 7(-2x + 3)^2$$

$$B =$$

$$B =$$

أنشر ثم بسط ما يلي : Développer

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

$$A = \dots x \dots x^2 \dots x \dots$$

$$A = \dots x^2 \dots x \dots$$

$$B = (-2x + 3)(3 - x) - 7(2x + 5) =$$

$$B =$$

$$B =$$

استعمال المتطابقات : Utilisation des identités

المتطابقات الهامة : Identité remarquables

$$(2x + 3y)^2 = 4x^2 + 12xy + 9y^2$$

$$(3x + 5y)^2 = 9x^2 + 30xy + 25y^2$$

$$(5a + 3)(5a + 3) = 25a^2 - 9$$

$$49a^2 - 3 = (7a + \sqrt{3})(7a + \sqrt{3})$$

$$a^2 + 2ab + b^2 = (a + b)^2$$

$$a^2 - 2ab + b^2 = (a - b)^2$$

$$a^2 - b^2 = (a - b)(a + b)$$

$$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$$

Bonne Chance