

C 5 Situation géométrique : périmètre

a) Écris une expression qui donne le périmètre de la figure ci-contre en fonction de x .

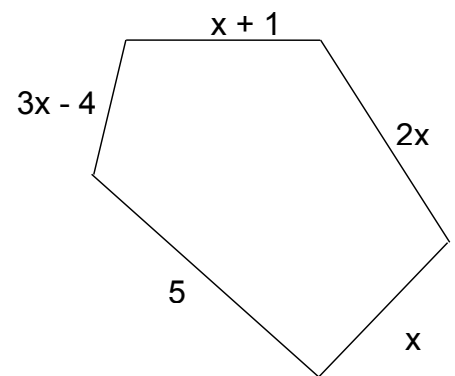
$$P = 3x - 4 + x + 1 + 2x + x + 5$$

b) Simplifie cette expression.

$$P = 7x + 2$$

c) Calcule le périmètre pour $x = 10$

$$P = 26 + 11 + 20 + 10 + 5 = 72 \quad \text{ou} \quad 70 + 2 = 72$$



C 6 Produits de monômes

1^{ère} série

$$x^3 \cdot x^2 = x^5$$

$$(-3x) \cdot (-2) = 6x$$

$$6x^6 \cdot 3x^3 = 18x^9$$

$$(x^5)^2 = x^{10}$$

$$-3^4 \cdot x^4 = -81x^4$$

$$(-3)^4 \cdot x^4 = 81x^4$$

$$\left(\frac{1}{3}x\right)^2 = x^2 / 9$$

$$\frac{x^3}{3} \cdot \frac{x^4}{4} = x^7 / 12$$

$$(2x)^5 = 32x^5$$

$$(0,5x)^3 = 0,125x^3 \quad \text{ou} \quad x^3 / 8$$

$$(-2x)^5 = -32x^5$$

$$(\sqrt{2}x)^2 = 2x^2$$

$$\frac{2x^3}{5} \cdot \frac{x^2}{2} = x^5 / 5$$

$$(10x^2)^3 = 1000x^6$$

$$(2x^5)^{10} = 1024x^{50}$$

$$\frac{1}{8}x \cdot 8x = x^2$$

$$\frac{1}{5}x^3 \cdot 0,9x^5 \cdot \frac{x}{7} = 9x^9 / 350 = 9 / 350 x^9$$

$$(-4x^3)^3 \cdot (-5x) \cdot x^7 = 320x^{17}$$

$$\frac{-4x}{3} \cdot \frac{-5x^2}{4} \cdot 36x^5 = 60x^8$$

2^{ème} série

$$0,7x^2 \cdot 2,5x \cdot 4x^3 = 7x^6$$

$$(2x)^3 \cdot (3x)^2 = 72x^5$$

$$\frac{x}{7} \cdot \frac{7x^2}{8} \cdot \frac{4x}{3} = x^4 / 6$$

$$(-2x^3)^2 \cdot 3x^4 = 12x^{10}$$

$$(-0,1x^2)^3 \cdot (10x^3)^2 = -0,1x^{12}$$

$$(-3x^2) \cdot (-3x)^2 = -27x^4$$

$$(-x)^3 \cdot x = -x^4$$

$$-x^3 \cdot x = -x^4$$

$$(-x)^4 \cdot x = x^5$$

$$-x^4 \cdot x = -x^5$$

C 7 Somme de monômes

$$3x^2 + 4x^2 = 7x^2$$

$$\frac{x}{2} + 3x = 3,5x \text{ ou } 7/2x \text{ ou } 7x/2$$

$$x^2 + 15x^2 = 16x^2$$

$$\frac{3x^2}{4} + x^2 + \frac{x^2}{2} = 9/4x^2 \text{ ou } 2,25x^2$$

$$49x^3 - 57x^3 = -8x^3$$

$$\frac{x^3}{4} - \frac{2}{3}x^3 = -5/12x^3$$

$$37x^2 + (-37x^2) = 0$$

$$x^4 - \frac{x^4}{4} = 3/4x^4 \text{ ou } 0,75x^4$$

$$0,2x^3 - \frac{x^3}{5} = 0$$

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

$$10x + 10^2x + 10^3x = 110x$$

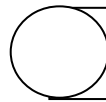
$$9,2(x^5 - x^5) = 0$$

$$x^2 + 2x^2 - 3x^2 = 0$$

$$\frac{2}{7}x^2 - x^2 = -5/7x^2$$

$$-x^4 + 1,2x^4 = 0,2x^4 \text{ ou } x^4/5$$

$$\frac{x}{4} + \frac{x}{5} + \frac{x}{6} = 37x/60 \text{ ou } 37/60x$$



C 8 Réduis les expressions suivantes, si possible.

1^{ère} série :

$$a(ab) = \mathbf{a^2b}$$

$$6m \cdot 6mn = \mathbf{36m^2n}$$

$$(2xy)(3xy) = \mathbf{6x^2y^2}$$

$$\frac{c}{2} \cdot 20c = \mathbf{10c^2}$$

$$5z \cdot 2z = \mathbf{10z^2}$$

$$5x \cdot x \cdot 10x = \mathbf{50x^3}$$

$$-2v \cdot 5v = \mathbf{-10v^2}$$

$$-y \cdot y \cdot (-y) = \mathbf{y^3}$$

$$(3a)(4a)(5a) = \mathbf{60a^3}$$

$$(-1)x(-y) = \mathbf{xy}$$

$$4ab(-b) = \mathbf{-4ab^2}$$

$$(-r)(-t)(-4) = \mathbf{-4rt}$$

2^{ème} série :

$$(6c)^2 = \mathbf{36c^2}$$

$$(-10mn)^3 = \mathbf{-1000m^3n^3}$$

$$(5xy)^2 = \mathbf{25x^2y^2}$$

$$(u^2)^3 = \mathbf{u^6}$$

$$(2a^2)^2 = \mathbf{4a^4}$$

$$-(ab^2)^2 = \mathbf{-a^2b^4}$$

$$(4 \cdot 4)(5 \cdot 5) = \mathbf{400}$$

$$(-x)^2 = \mathbf{x^2}$$

$$x^3(-2x^2) = \mathbf{-2x^5}$$

$$-x^2 = \mathbf{-x^2}$$

$$(-4y)^3 = \mathbf{-64y^3}$$

$$xyx = \mathbf{x^2y}$$

$$z+8z = \mathbf{9z}$$

$$1,5z+3z+4,5z = \mathbf{9z}$$

$$4m+3m-4m = \mathbf{3m}$$

$$7y-6y = \mathbf{y}$$

$$4+2x = \mathbf{2x+4}$$

$$4+w-5 = \mathbf{w-1}$$

$$8y-8y = \mathbf{0}$$

$$3x+4+x+5 = \mathbf{4x+9}$$

$$x+x = \mathbf{2x}$$

$$2x-3x+1 = \mathbf{-x+1}$$

$$2a+2+0,5a = \mathbf{2,5a+2}$$

$$u+15 = \mathbf{u+15}$$