

Ex 1

$$A = -5(6-2^3)^2$$

$$= -5(6-8)^2$$

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

$$= -5 \times 4$$

$A = -20$

$$B = (5^0 - 4)^2 \times 4^{-1}$$

$$= (1-4)^2 \times \frac{1}{4}$$

$$= (-3)^2 \times \frac{1}{4}$$

$$= 9 \times \frac{1}{4}$$

$B = \frac{9}{4}$

$$C = \frac{5}{3} \left(2 - \frac{6}{5}\right)^2$$

$$= \frac{5}{3} \left(\frac{10}{5} - \frac{6}{5}\right)^2$$

$$= \frac{5}{3} \left(\frac{4}{5}\right)^2$$

$$= \frac{5}{3} \times \frac{16}{25}$$

$$= \frac{\cancel{5} \times 16}{3 \times \cancel{5} \times 5}$$

$C = \frac{16}{15}$

$$D = 3 - \left(3 - 2 \times \frac{4}{3}\right)$$

$$= 3 - \left(3 - \frac{8}{3}\right)$$

$$= 3 - \left(\frac{9}{3} - \frac{8}{3}\right)$$

$$= 3 - \frac{1}{3}$$

$$= \frac{9}{3} - \frac{1}{3}$$

$D = \frac{8}{3}$

$$E = \frac{2}{\frac{2}{3} - \frac{1}{2}}$$

$$= \frac{2}{\frac{4}{6} - \frac{3}{6}}$$

$$= \frac{2}{\frac{1}{6}}$$

$$= 2 \times \frac{6}{1}$$

$E = 12$

Ex 3

$$\frac{3-4x}{5} = 3 \quad \left. \begin{array}{l} \times 5 \\ -3 \end{array} \right\}$$

$$3-4x = 15$$

$$-4x = 15-3$$

$$-4x = 12$$

$$x = \frac{12}{-4}$$

$x = -3$

$S = \{-3\}$

$$8 + \frac{2x}{3} = -1 \quad \left. \begin{array}{l} \times 3 \\ -8 \end{array} \right\}$$

$$\frac{2x}{3} = -1-8$$

$$\frac{2x}{3} = -9$$

$$2x = -27 \quad \left. \begin{array}{l} \times 2 \\ -2 \end{array} \right\}$$

$x = \frac{-27}{2}$

$$S = \left\{-\frac{27}{2}\right\}$$

Ex 4

1) f est décroissante sur $[-4; -2]$ et sur $[0; 6]$

2)

x	$-\infty$	-2	3	$+\infty$
$f(x)$	$+$	\emptyset	\emptyset	$-$

- 3)
- $f(x) = 2 \quad S = \{-4; -1; 1\}$
 - $f(x) \geq 2 \quad S = \{-4\} \cup [-1; 1]$
 - $f(x) < 2 \quad S =]-4; -1[\cup]1; 6]$
 - $f(x) \leq -1 \quad S = [4; 6]$

Ex 2

* $A = -5x - (3 - x^2 - x)$

$$= -5x - 3 + x^2 + x$$

$A = x^2 - 4x - 3$

* $B = 3x^2 - 2x(-3 + 2x)$

$$= 3x^2 + 6x - 4x^2$$

$B = -x^2 + 6x$

$$C = 4(1-x)(-5x-2)$$

$$= 4(-5x-2+5x^2+2x)$$

$$= 4(5x^2-3x-2)$$

$C = 20x^2 - 12x - 8$

$$D = 6x - (2-x)(-3+x)$$

$$= 6x - (-6+2x+3x-x^2)$$

$$= 6x - (-x^2+5x-6)$$

$$= 6x + x^2 - 5x + 6$$

$D = x^2 + x + 6$

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

$$= 9 - 2 \times 3 \times 2x + (2x)^2 + x$$

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

$E = 4x^2 - 11x + 9$

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