

## Concettim de l'intervallo

exco 1

$$1. (2x-1)(3x+2) - (x-3)(3x+2) = 0$$

$$(3x+2)[(2x-1) - (x-3)] = 0$$

$$(3x+2)(2x-1-x+3) = 0$$

$$(3x+2)(x+2) = 0$$

$$\text{Snt } 3x+2=0$$

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

$$\text{Snt } x+2=0$$

$$\boxed{x = -2}$$

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

$$4x^2 + 3x - 4x - 3 = 4x^2 + 4x + 1$$

$$3x - 4x - 4x = 1 + 3$$

$$-5x = 4$$

$$\boxed{x = -\frac{4}{5}}$$

$$3. (3x+1)^2 - (2x+3)^2 = 0$$

$$[(3x+1) + (2x+3)][(3x+1) - (2x+3)] = 0$$

$$[3x+1+2x+3][3x+1-2x-3] = 0$$

$$(5x+4)(x-2) = 0$$

$$\text{Snt } 5x+4=0$$

$$\boxed{x = -\frac{4}{5}}$$

$$\text{Snt } x-2=0$$

$$\boxed{x = 2}$$

$$4. \frac{5-x}{x+2} = 2 \Rightarrow 5-x = 2(x+2)$$

$$5-x = 2x+4$$

$$-x-2x = 4-5$$

$$-3x = -1$$

$$\boxed{x = \frac{1}{3}}$$

$$5. \frac{2x+1}{2x+1} = \frac{4}{2x+1}$$

$$(2x+1)^2 = 4$$

$$(2x+1)^2 - 2^2 = 0$$

$$(2x+1+2)(2x+1-2) = 0$$

$$(2x+3)(2x-1) = 0$$

$$\text{Snt } 2x+3=0$$

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

$$\text{Snt } 2x-1=0$$

$$\boxed{x = \frac{1}{2}}$$

$$6. \frac{3x+1}{2} - \frac{4x-1}{5} = \frac{2x-1}{10} + x$$

$$\frac{5(3x+1)}{10} - \frac{2(4x-1)}{10} = \frac{2x-1}{10} + \frac{10x}{10}$$

$$15x+5-8x+2 = 2x-1+10x$$

$$15x-8x-2x-10x = -1-2-5$$

$$-5x = -8$$

$$\boxed{x = \frac{8}{5}}$$

ex02

1.  $f(x) = x^2 - 2x^2 + (2x)^2 - (3 - 3x - 6x + 6x^2)$

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

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

2.  $f(x) = (-1+2x)^2 - (3-6x)(1-x)$

$= (-1+2x)(-1+2x) - 3(1-2x)(1-x)$

$= -(1-2x)(-1+2x) - 3(1-2x)(1-x)$

$= (1-2x)[-(-1+2x) - 3(1-x)]$

$= (1-2x)[1-2x-3+3x]$

$= (1-2x)(x-2)$

3. a.  $f(x) = 0$

$(1-2x)(x-2) = 0$

Soit  $1-2x = 0$

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

Soit  $x-2 = 0$

$x = 2$

b.  $f(x) = -2$

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

$-2x^2 + 5x = 0$

$x(-2x+5) = 0$

Soit  $x = 0$

Soit  $-2x+5 = 0$

$x = \frac{5}{2}$

c.  $f(x) = x-2$

$(1-2x)(x-2) = x-2$

$(1-2x)(x-2) - (x-2) = 0$

$(x-2)[(1-2x) - 1] = 0$

$(x-2)(-2x) = 0$

Soit  $x-2 = 0$

$x = 2$

Soit  $-2x = 0$

$x = 0$

ex03

P1

x: salaire d'un ouvrier

x+400: salaire contremaître

x+1400: salaire Patron.

On pose  $11x + 2(x+400) + x + 1400 = 19000$

$11x + 2x + 800 + x + 1400 = 19000$

$14x + 2200 = 19000$

$14x = 16800$

$x = \frac{16800}{14}$

$x = 1200$

Donc ouvrier : 1200 €    contremaître : 1600 €    Patron : 2600 €

P2

	Aujourd'hui	dans 6 ans
filis	x	x+6
peux	x+27	x+33

Posons  $x+33 = 2(x+6)$      $-x = -21$   
 $x+33 = 2x+12$      $x = 21$   
 $x-2x = 12-33$

filis : 21 ans

Peux : 48 ans