

Mathématique Pré-Calcul 30S
Équation Quadratique Leçon 2
Revue factorisation

Nom : _____

Date : _____

1. Factorise.

a) $y = x^2 + 4x - 5$

$$y = (x+5)(x-1)$$

b) $y = x^2 + 6x + 8$

$$y = (x+4)(x+2)$$

c) $y = 2x^2 + 5x + 3$

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

d) $y = 3x^2 + 7x + 2$

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

e) $y = 5x^2 - 7x - 6$

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

2. Factorise.

a) $y = x^2 - 36z^2$

$$y = (x-6z)(x+6z)$$

b) $y = 25x^2 - 9z^2$

$$y = (5x-3z)(5x+3z)$$

c) $y = n^2 - 1$

$$y = (n+1)(n-1)$$

3. Factorise.

a) $x^2 + 8x + 7$, b) $x^2 + 6x - 7$, c) $x^2 + 7x + 10$, d) $x^2 - 6x + 9$, e) $x^2 + 5x + 6$.

a) $(x+7)(x+1)$

d) $(x-3)^2$

b) $(x+7)(x-1)$

e) $(x+2)(x+3)$

c) $(x+5)(x+2)$

4. Factorise.

a) $2x^2 + 3x + 1$, b) $2x^2 + 4x + 2$, c) $3x^2 - 3x - 6$, d) $5x^2 - 4x - 1$, e) $16x^2 - 1$.

f) $-x^2 + 1$, g) $-2x^2 + x + 3$.

a) $(2x+1)(x+1)$

d) $(5x+1)(x-1)$

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

e) $(4x-1)(4x+1)$

c) $(3x-6)(x+1)$

f) $(-x+1)(x+1)$

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

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

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5. Factorise.

a) $z^2 - 144$, b) $z^2 - \frac{1}{4}$, c) $s^2 - \frac{1}{9}$

a) $(z-12)(z+12)$ b) $(z-\frac{1}{2})(z+\frac{1}{2})$ c) $(s-\frac{1}{3})(s+\frac{1}{3})$

6. Résous les équations quadratiques.

a) $x^2 + 9x + 14 = 0$

$(x+7)(x+2) = 0$

$x = -7$ $x = -2$

b) $x^2 + 11x + 18 = 0$

$(x+9)(x+2) = 0$

$x = -9$ $x = -2$

c) $x^2 + 7x - 18 = 0$

$(x+9)(x-2) = 0$

$x = -9$ $x = 2$

d) $x^2 + 4x - 77 = 0$

$(x+11)(x-7) = 0$

$x = -11$ $x = 7$

e) $x^2 + 2x = 0$

$x(x+2) = 0$

$x = 0$ $x = -2$

f) $3x^2 + x = 0$

$x(3x+1) = 0$

$x = 0$ $x = -\frac{1}{3}$

g) $3x^2 + 4x + 1 = 0$

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

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

h) $6x^2 + 5x + 1 = 0$

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

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

i) $6x^2 + 31x + 35 = 0$

$(3x+5)(2x+7) = 0$

$x = -\frac{5}{3}$ $x = -\frac{7}{2}$

j) $6x^2 + 7x - 5 = 0$

$(2x-1)(3x+5) = 0$

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

k) $-3x^2 + 2x + 5 = 0$

$(-3x+5)(x+1) = 0$

$x = \frac{5}{3}$ $x = -1$

$-3x+5=0$
 $-3x=-5$
 $x = \frac{5}{3}$

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

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

$x = 2$ $x = 1$