



Forme canonique

Exercice : Ecrire sous forme canonique les expressions suivantes.

$A(x) = x^2 + 8x + 3$	$B(x) = x^2 - 4x - 4$
$C(x) = x^2 - 6x + 12$	$D(x) = x^2 + 4x - 7$
$E(x) = x^2 + 6x + 9$	$F(x) = x^2 + 2x + 7$
$G(x) = x^2 - 5x + 4$	$H(x) = x^2 + 7x + 5$
$I(x) = x^2 + 9x - 1$	$J(x) = 2x^2 - 12x + 8$
$K(x) = 5x^2 + 10x + 10$	$L(x) = 3x^2 + 2x + 1$
$M(x) = -8x^2 + 4x - 2$	$N(x) = -2x^2 + 3x + 1$



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Correction

Exercice : Ecrire sous forme canonique les expressions suivantes.

$A(x) = x^2 + 8x + 3$ $A(x) = (x + 4)^2 - 16 + 3$ $A(x) = (x + 4)^2 - 13$	$B(x) = x^2 - 4x - 4$ $B(x) = (x - 2)^2 - 4 - 4$ $B(x) = (x - 2)^2 - 8$
$C(x) = x^2 - 6x + 12$ $C(x) = (x - 3)^2 - 9 + 12$ $C(x) = (x - 3)^2 + 3$	$D(x) = x^2 + 4x - 7$ $D(x) = (x + 2)^2 - 4 - 7$ $D(x) = (x + 2)^2 - 11$
$E(x) = x^2 + 6x + 9$ $E(x) = (x + 3)^2 - 9 + 9$ $E(x) = (x + 3)^2 + 0 = (x + 3)^2$	$F(x) = x^2 + 2x + 7$ $F(x) = (x + 1)^2 - 1 + 7$ $F(x) = (x + 1)^2 + 6$
$G(x) = x^2 - 5x + 4$ $G(x) = (x - \frac{5}{2})^2 - (\frac{5}{2})^2 + 4$ $G(x) = (x - \frac{5}{2})^2 - \frac{9}{4}$	$H(x) = x^2 + 7x + 5$ $H(x) = (x + \frac{7}{2})^2 - (\frac{7}{2})^2 + 5$ $H(x) = (x + \frac{7}{2})^2 - \frac{21}{4}$
$I(x) = x^2 + 9x - 1$ $I(x) = (x + \frac{9}{2})^2 - (\frac{9}{2})^2 - 1$ $I(x) = (x + \frac{9}{2})^2 - \frac{85}{4}$	$J(x) = 2x^2 - 12x + 8$ $J(x) = 2(x^2 - 6x + 4)$ $J(x) = 2((x - 3)^2 - 9 + 4)$ $J(x) = 2((x - 3)^2 - 5)$ $J(x) = 2(x - 3)^2 - 10$
$K(x) = 5x^2 + 10x + 10$ $K(x) = 5(x^2 + 2x + 2)$ $K(x) = 5((x + 1)^2 - 1 + 2)$ $K(x) = 5((x + 1)^2 + 1)$ $K(x) = 5(x + 1)^2 + 5$	$L(x) = 3x^2 + 2x + 1$ $L(x) = 3(x^2 + \frac{2}{3}x + \frac{1}{3})$ $L(x) = 3((x + \frac{1}{3})^2 - \frac{1}{9} + \frac{1}{3})$ $L(x) = 3((x + \frac{1}{3})^2 + \frac{2}{9})$ $L(x) = 3(x + \frac{1}{3})^2 + \frac{2}{3}$

$$M(x) = -8x^2 + 4x - 2$$

$$M(x) = -8\left(x^2 + \frac{-1}{2}x + \frac{1}{4}\right)$$

$$M(x) = -8\left(\left(x - \frac{1}{4}\right)^2 - \frac{1}{16} + \frac{1}{4}\right)$$

$$M(x) = -8\left(\left(x - \frac{1}{4}\right)^2 + \frac{3}{16}\right)$$

$$M(x) = -8\left(x - \frac{1}{4}\right)^2 - \frac{3}{2}$$

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

$$N(x) = -2\left(x^2 + \frac{-3}{2}x - \frac{1}{2}\right)$$

$$N(x) = -2\left(\left(x - \frac{3}{4}\right)^2 - \frac{9}{16} - \frac{1}{2}\right)$$

$$N(x) = -2\left(\left(x - \frac{3}{4}\right)^2 - \frac{17}{16}\right)$$

$$N(x) = -2\left(x - \frac{3}{4}\right)^2 + \frac{17}{8}$$