

EXERCICE 3C.1

Retrouver parmi les expressions suivantes la fonction polynôme (sous forme canonique) qui correspond à chaque courbe.

$A(x) = 2(x - 2)^2 - 2$

$B(x) = (x - 4)^2 - 1$

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

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

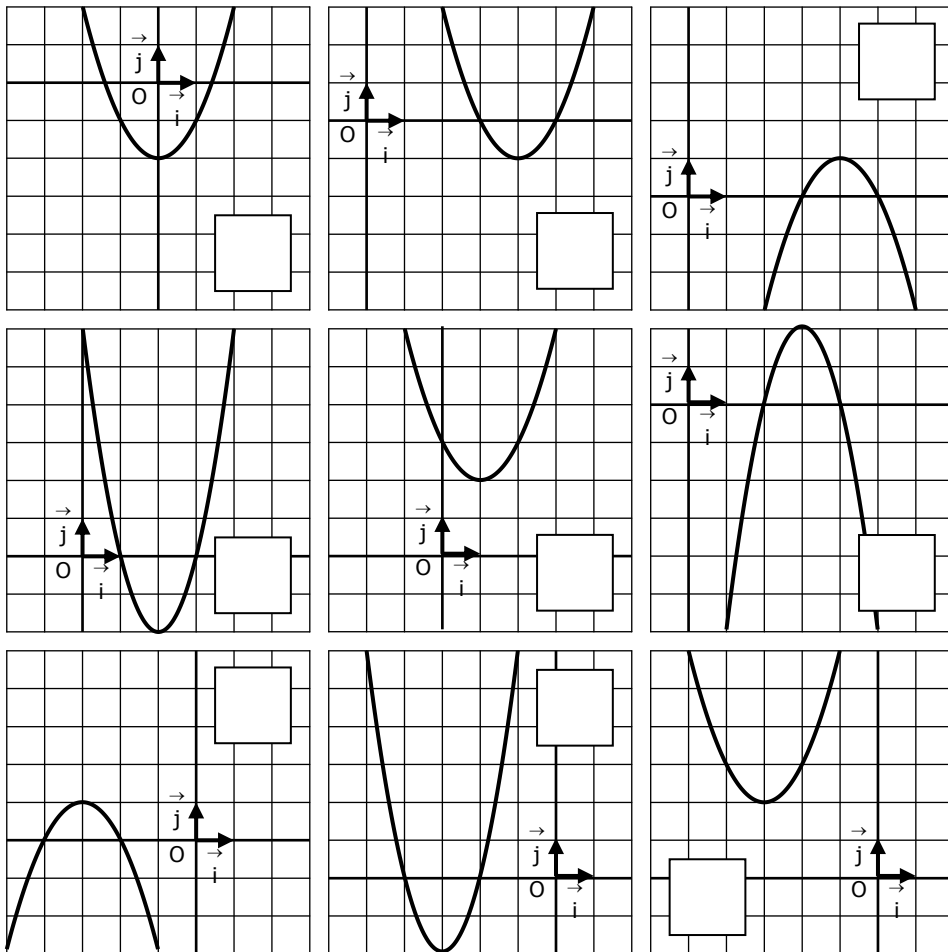
$E(x) = -2(x - 3)^2 + 2$

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

$G(x) = (x + 3)^2 + 2$

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

$I(x) = x^2 - 2$



EXERCICE 3C.2

On donne quatre fonctions polynômes du second degré

$f_1(x) = x^2 - 10x + 24$

$f_2(x) = x^2 + 2x + 2$

$f_3(x) = 2x^2 - 20x + 48$

$f_4(x) = -x^2 + 6x - 9$

1. Mettre sous forme canonique les fonctions :

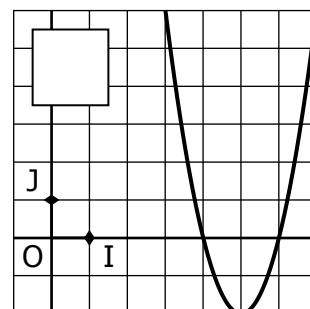
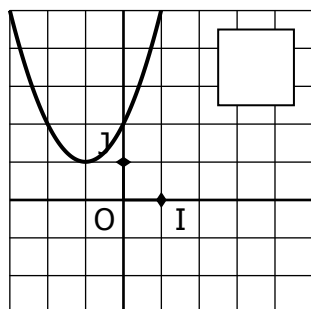
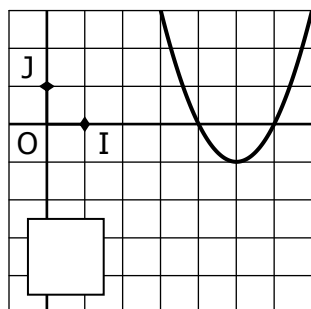
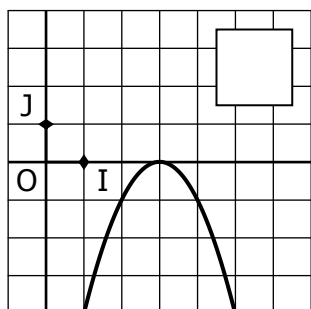
$f_1(x) =$

$f_2(x) =$

$f_3(x) =$

$f_4(x) =$

2. Retrouver la courbe représentative de chaque fonction.



CORRIGE – NOTRE DAME DE LA MERCI - Montpellier

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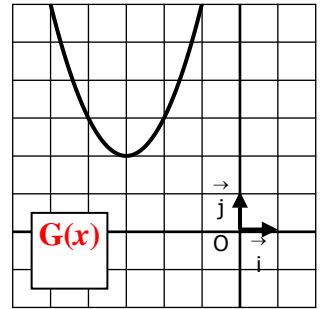
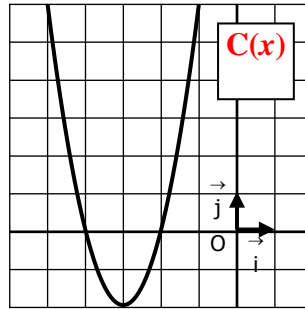
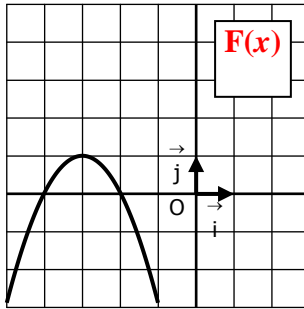
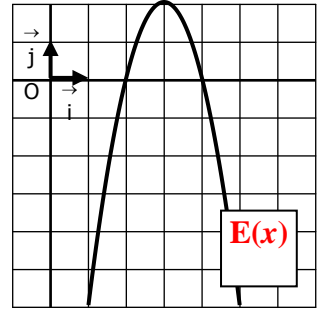
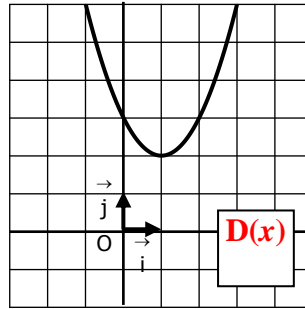
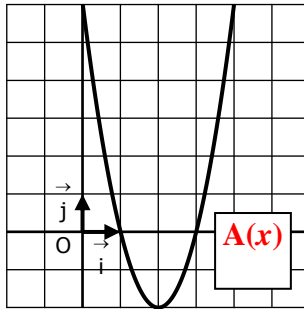
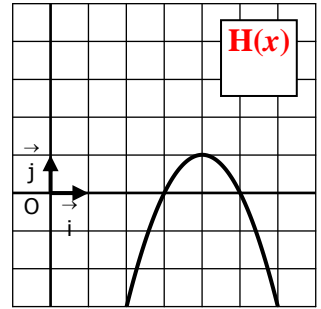
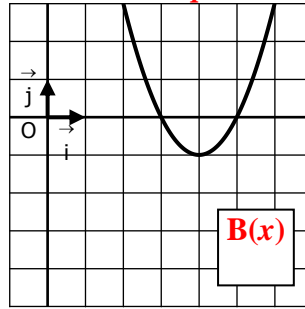
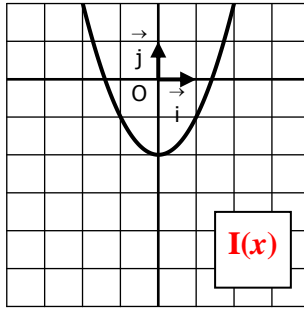
$E(x) = -2(x - 3)^2 + 2$

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

$G(x) = (x + 3)^2 + 2$

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

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



EXERCICE 3C.2 : On donne quatre fonctions polynômes du second degré

$f_1(x) = x^2 - 10x + 24$

$f_2(x) = x^2 + 2x + 2$

$f_3(x) = 2x^2 - 20x + 48$

$f_4(x) = -x^2 + 6x - 9$

1. Mettre sous forme canonique les fonctions :

$f_1(x) = x^2 - 10x + 24$

$\alpha = \frac{-b}{2a} = \frac{10}{2 \times 1} = 5$

$\beta = \frac{-b^2 + 4ac}{4a}$

$= \frac{-(-10)^2 + 4 \times 1 \times 24}{4 \times 1}$

$= \frac{-100 + 96}{4} = -1$

$f_1(x) = (x - 5)^2 - 1$

$f_2(x) = x^2 + 2x + 2$

$\alpha = \frac{-b}{2a} = \frac{-2}{2 \times 1} = -1$

$\beta = \frac{-b^2 + 4ac}{4a}$

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

$= \frac{-4 + 8}{4} = 1$

$f_2(x) = (x + 1)^2 + 1$

$f_3(x) = 2(x^2 - 10x + 24)$

$\alpha = \frac{-b}{2a} = \frac{10}{2 \times 1} = 5$

$\beta = \frac{-b^2 + 4ac}{4a}$

$= \frac{-(-10)^2 + 4 \times 1 \times 24}{4 \times 1}$

$= \frac{-100 + 96}{4} = -1$

$f_3(x) = 2[(x - 5)^2 - 1]$

$f_3(x) = 2(x - 5)^2 - 2$

$f_4(x) = -(x^2 - 6x + 9)$

$\alpha = \frac{-b}{2a} = \frac{-(-6)}{2 \times 1} = 3$

$\beta = \frac{-b^2 + 4ac}{4a}$

$= \frac{-(-6)^2 + 4 \times 1 \times 9}{4 \times 1}$

$= \frac{-36 + 36}{4} = 0$

$f_4(x) = -(x - 3)^2$

2. Retrouver la courbe représentative de chaque fonction.

