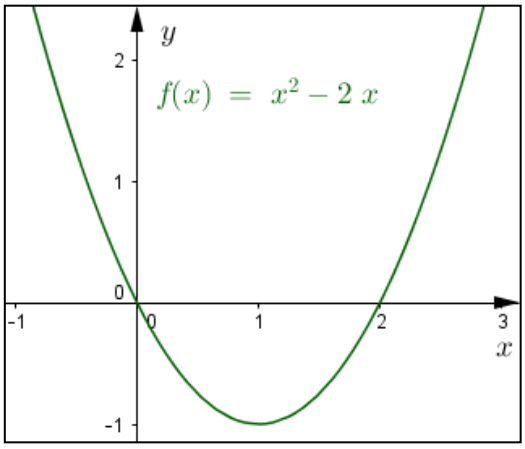
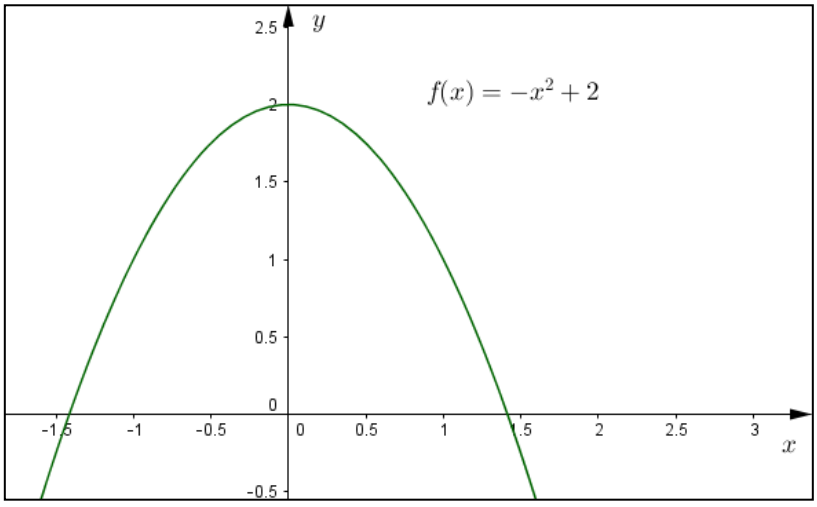
T. P. Nº 10 - RESPUESTAS

Problema 1

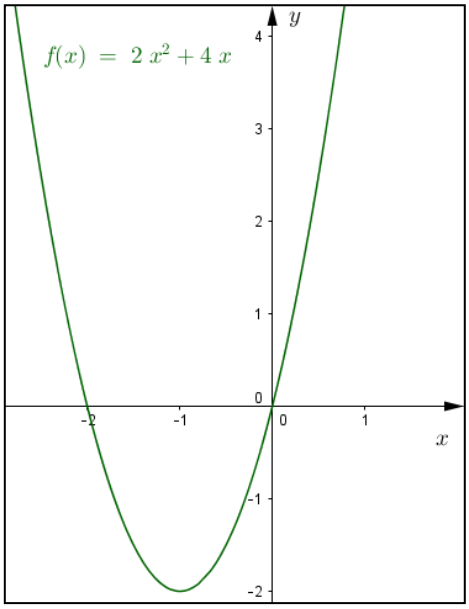
a) Coef. Principal = 1 Vértice (1 , -1) Raíces: $x = 0$ y $x = 2$



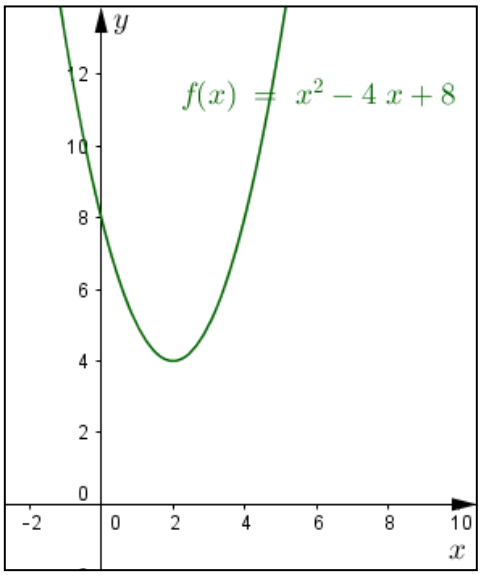
b) Coef. Principal = -1 Vértice (0, 2) Raíces: $x = \sqrt{2}$ y $x = -\sqrt{2}$



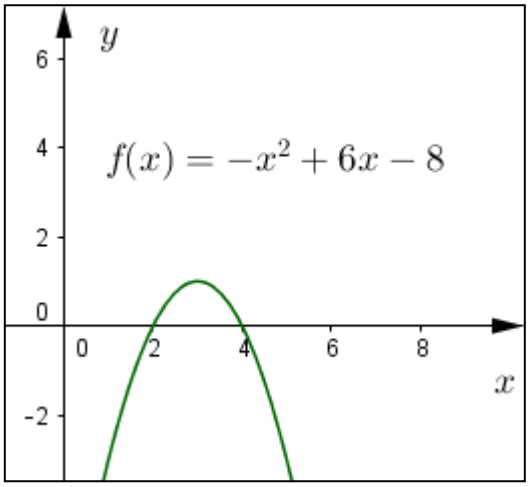
c) Coef. Principal = 2 Vértice (-1, -2) Raíces: $x = -2$ y $x = 0$



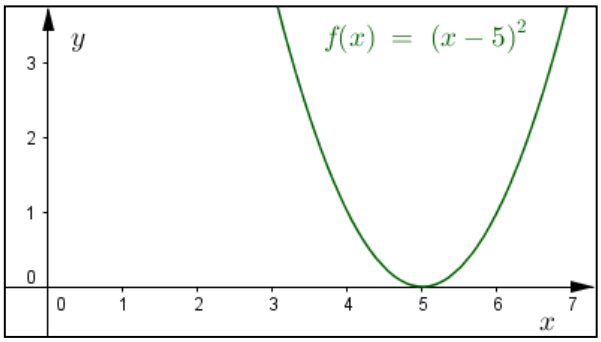
d) Coef. Principal = 1 Vértice (2, 4) Raíces: No Posee



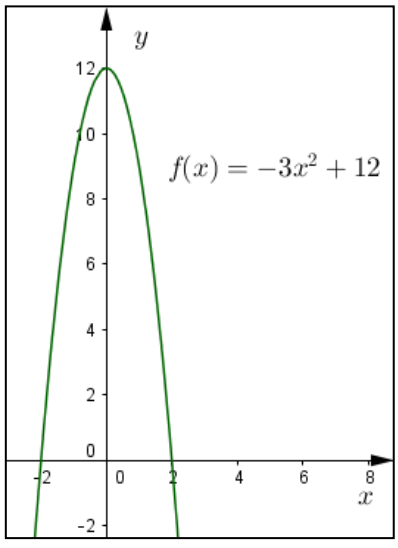
e) Coef. Principal = -1 Vértice (3 , 1) Raíces: $x = 2$ y $x = 4$



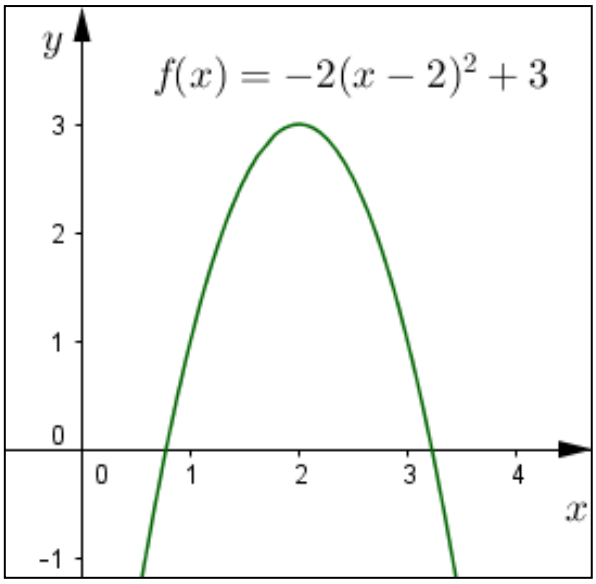
f) Coef. Principal = 1 Vértice (5 , 0) Raíces: $x = 5$



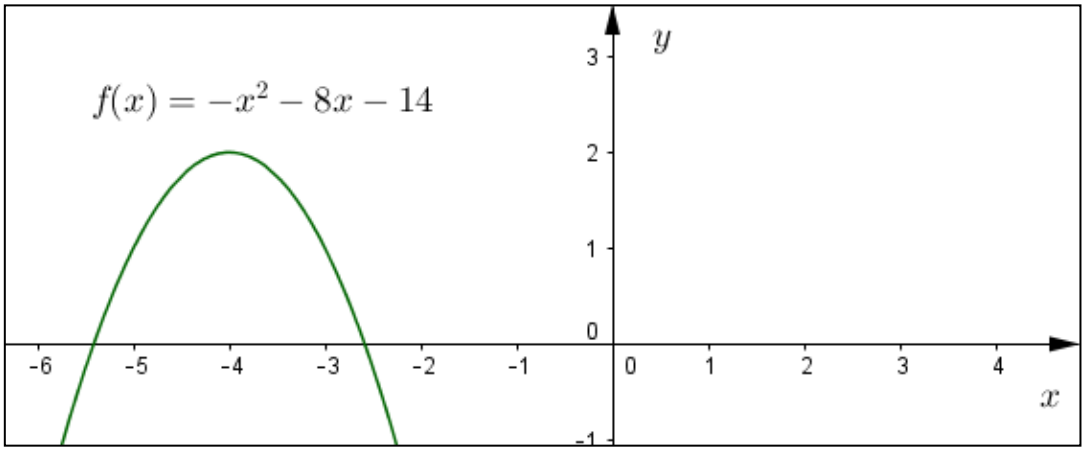
g) Coef. Principal = -3 Vértice (0 , 12) Raíces: $x = -2$ y $x = 2$



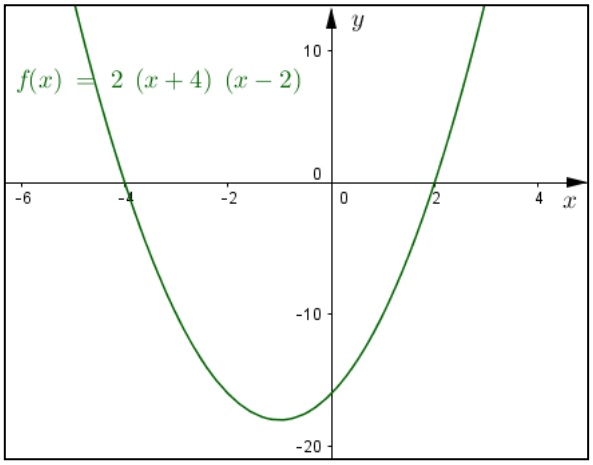
h) Coef. Principal = -2 Vértice (2 , 3) Raíces: $x \cong 0.78$ y $x \cong 3.22$



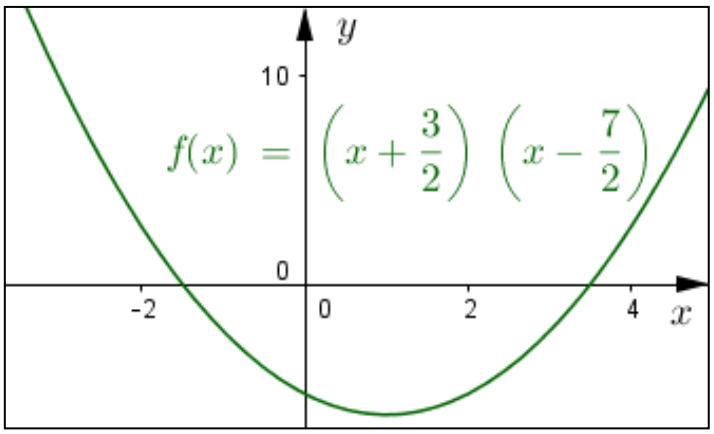
i) Coef. Principal = -1 Vértice (-4 , 2)
Raíces: : $x \cong -4 - \sqrt{2}$ y $x \cong -4 + \sqrt{2}$



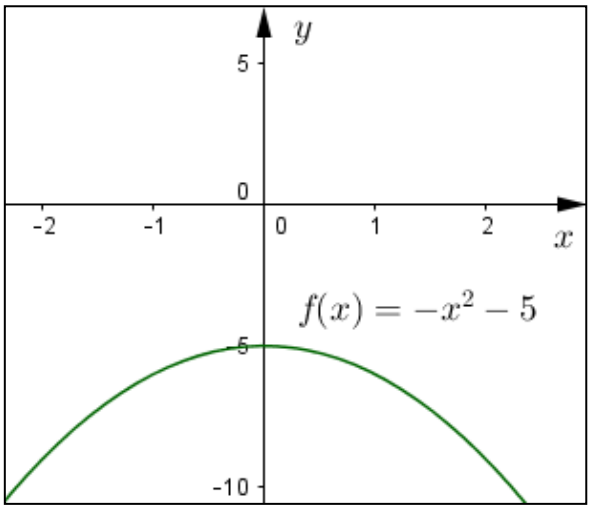
j) Coef. Principal = 2 Vértice (-1 , -18) Raíces: $x = -4$ y $x = 2$



k) Coef. Principal = 1 Vértice (1 , -6.25) Raíces: $x = -\frac{3}{2}$ y $x = \frac{7}{2}$



l) Coef. Principal = - 1 Vértice (0 , -5) Raíces: No Posee



Problema 2

Respuestas correctas:

I) $f(x) = (x-4)^2 - 2$

III) $f(x) = x^2 - 8x + 14$

Problema 3

Forma polinómica	Forma estándar	Forma factorizada
$f(x) = -2x^2 + 12x - 10$	$\boldsymbol{f(x) = -2(x-3)^2 + 8}$	$\boldsymbol{f(x) = -2(x-1)(x-5)}$
$\boldsymbol{f(x) = x^2 + 8x + 12}$	$f(x) = (x+4)^2 - 4$	$\boldsymbol{f(x) = (x+6)(x+2)}$
$\boldsymbol{f(x) = x^2 + 10x + 21}$	$\boldsymbol{f(x) = (x+5)^2 - 4}$	$f(x) = (x+3)(x+7)$
$f(x) = x^2 + 6x$	$\boldsymbol{f(x) = (x+3)^2 - 9}$	$\boldsymbol{f(x) = x(x+6)}$
$\boldsymbol{f(x) = x^2 - 3x - \frac{7}{4}}$	$\boldsymbol{f(x) = (x-\frac{3}{2})^2 - 4}$	$f(x) = \left(x + \frac{1}{2}\right)\left(x - \frac{7}{2}\right)$
$f(x) = 2x^2 + 16x + 32$	$\boldsymbol{f(x) = 2(x+4)^2}$	$\boldsymbol{f(x) = 2(x+4)^2}$

Problema 4

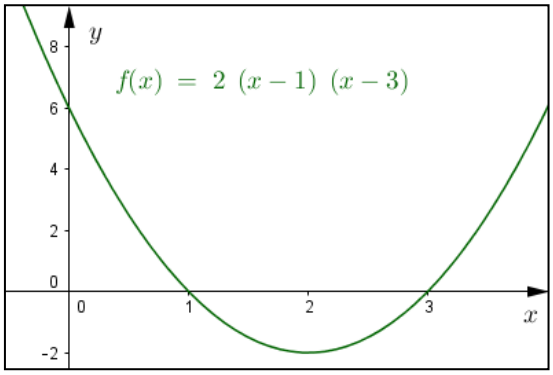
Dados los siguientes gráficos, hallar la ecuación correspondiente a cada parábola.

GRÁFICO A: $\boldsymbol{f(x) = (x-2)^2}$

GRÁFICO B: $\boldsymbol{f(x) = -(x-6)^2 + 4}$

Problema 5

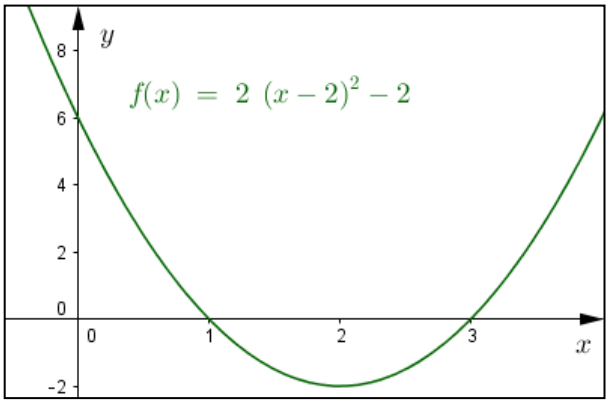
a) $a = 2$
b) Vértice = (2 ,-2) Raíces: $x = 1$ y $x = 3$
c) Intersección con el eje y, (0,6)
d)



e)$f(x) = 2(x-2)^2 - 2$

Problema 6

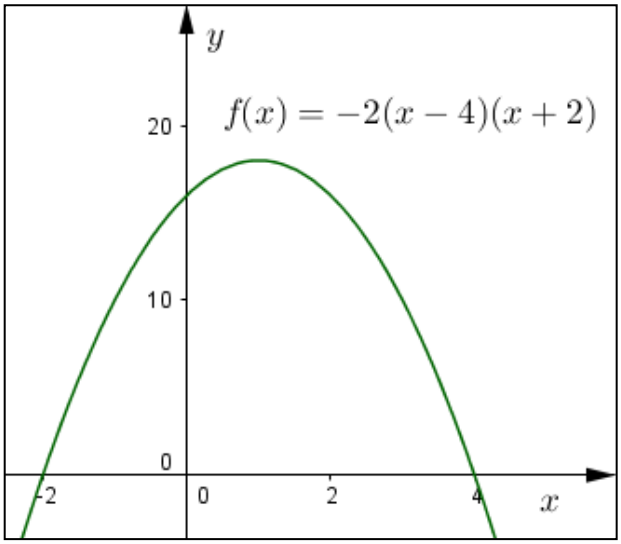
a) $a = 2$
b) Dom: $\mathbb{R}$
c) Intersección con el eje de ordenadas, (0,6)
d)



e) $f(x) = 2(x-1)(x-3)$

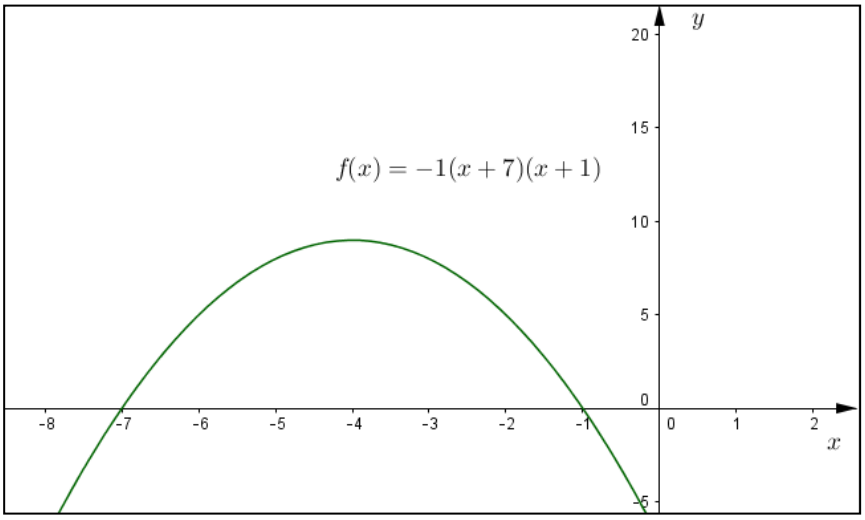
Problema 7

a) $x = 4 \quad y \quad x = -2$
b) Vértice: (1, 18) Forma estándar $f(x) = -2(x-1)^2 + 18$
c)



Problema 8

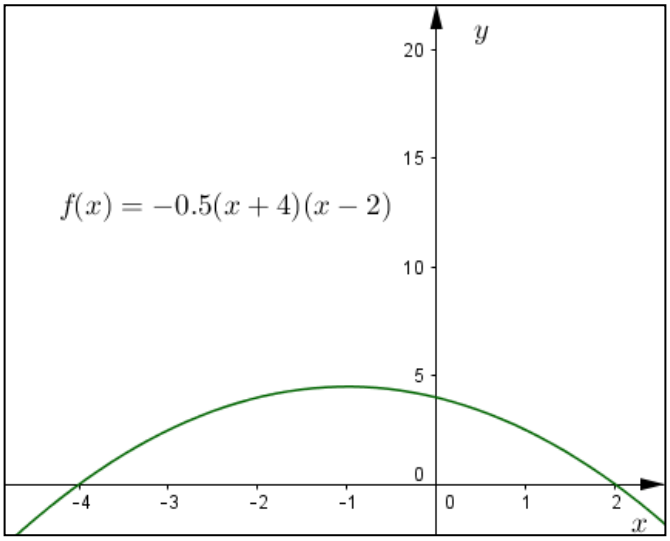
a) $f(x) = -1.(x+7).(x+1)$
b) *Vértice* $(-4\,,9)$ *Intersección con el eje de ordenadas* : $(0\,,-7)$
c)



d) $x = -4$

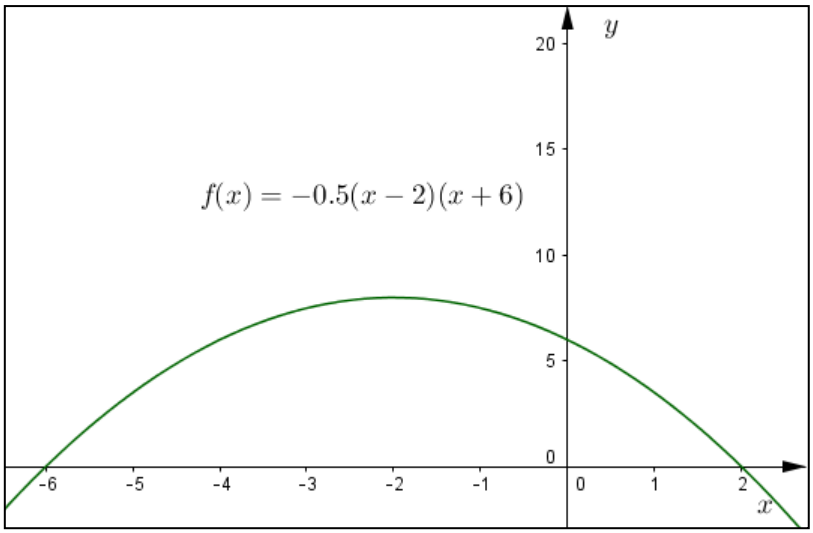
Problema 9

a) $a = -\frac{1}{2}$
b) *Vértice*: $\left(-1, \frac{9}{2}\right)$ *Forma estándar*: $f(x) = -\frac{1}{2}.(x+1)^2 + \frac{9}{2}$
c)



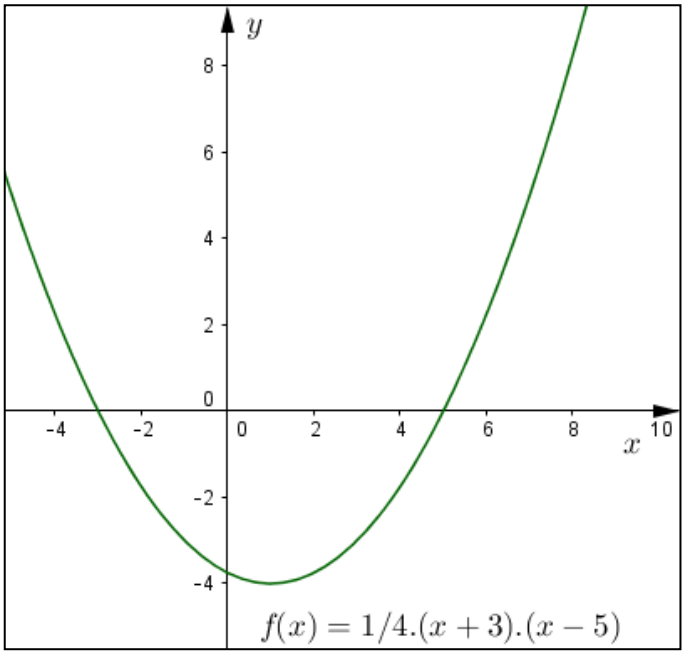
Problema 10

a) $f(x) = -\frac{1}{2}.(x-2).(x+6)$
b) $Vértice: (-2\,, 8)$
c)



Problema 11

a) $t = 5$
b) $y_v = -4$ $\quad Forma\ estándar: f(x) = \frac{1}{4}.(x-1)^2 - 4$
c)



Problema 12

$f(x) = 2.(x-1)^2 - 2$

Problema 13

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

Problema 14

a) **Solución:** $\boldsymbol{Puntos}\ (\mathbf{1},\mathbf{0})\ \boldsymbol{y}\ (\mathbf{4}\ ,\mathbf{6})$

b) **Solución:** $\boldsymbol{Puntos}\ (-\mathbf{6},\mathbf{0})\ \boldsymbol{y}\ (-\mathbf{3}\ ,-\mathbf{6})$

c) **Solución:** $\boldsymbol{Puntos}\ (-\mathbf{8},-\mathbf{7})\ \boldsymbol{y}\ (-\mathbf{2}\ ,\mathbf{5})$

d) **Solución:** $\boldsymbol{Puntos}\ (-\mathbf{4},\mathbf{1})\ \boldsymbol{y}\ (-\mathbf{1}\ ,\mathbf{4})$