

FONCTIONS DE RÉFÉRENCE

Signe

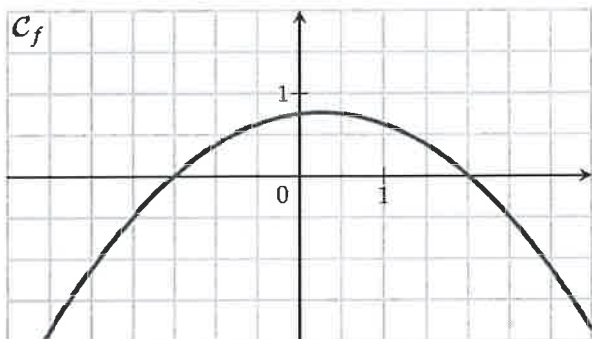
C. SCOLAS



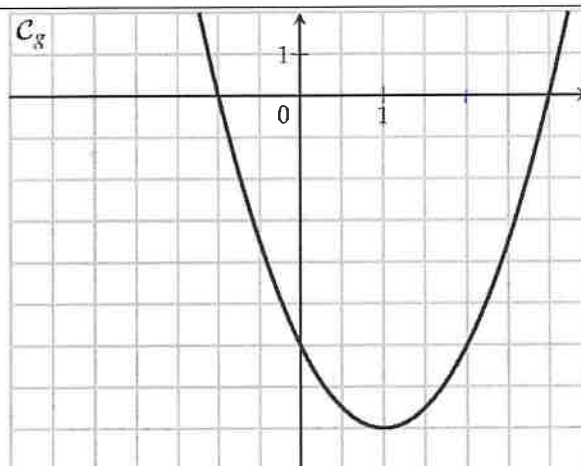
<https://bit.ly/3W4ZXWm>



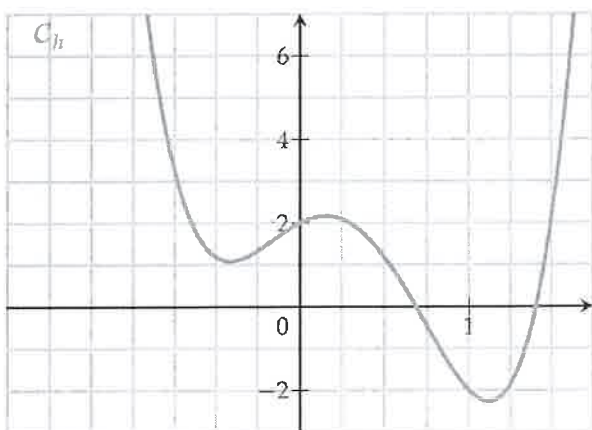
1. Etablis le tableau de signe des fonctions représentées ci-dessous :



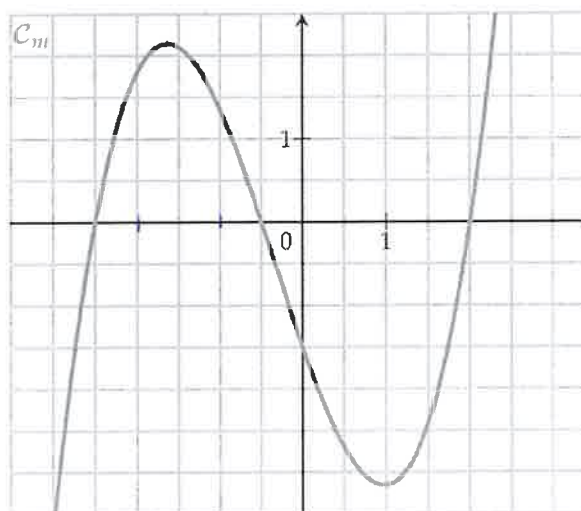
x	$-3/2$	2			
$f(x)$	$-$	0	$+$	0	$-$



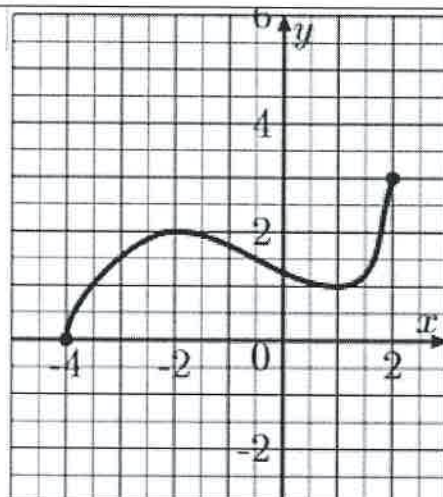
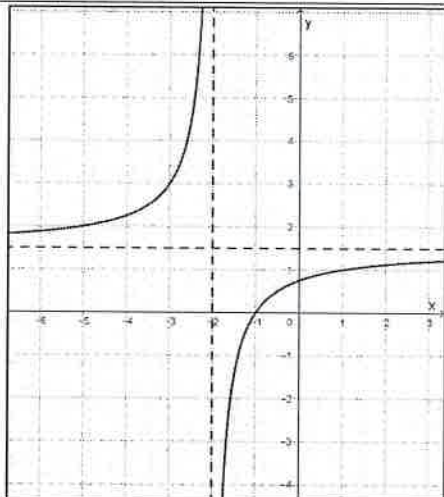
x	-1	3			
$f(x)$	$+$	0	$-$	0	$+$



x	$0,7$	$1,3$			
$f(x)$	$+$	0	$-$	0	$+$

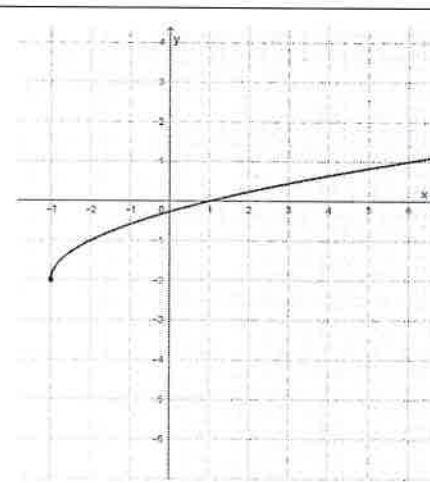
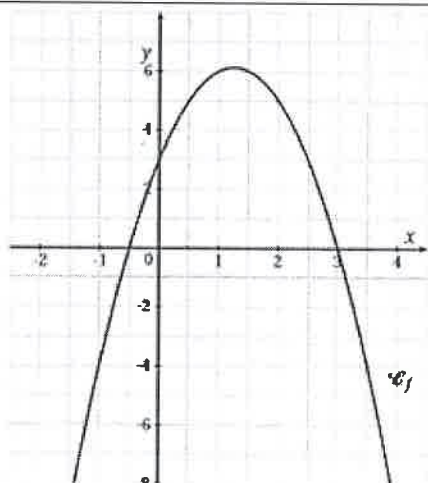


x	$-\frac{5}{2}$	$-\frac{1}{2}$	2				
$f(x)$	$-$	0	$+$	0	$-$	0	$+$



x	-2	-1
$f(x)$	$+$	$-$

x	-4	2
$f(x)$	0	$+$



x	$-\frac{1}{2}$	3
$f(x)$	$-$	$+$

x	-3	1
$f(x)$	$-$	$+$

2. Etablis le tableau de signe de chaque fonction :

(1) $f(x) = 2x + 1$

Racine: $2x + 1 = 0 \Leftrightarrow x = -\frac{1}{2}$

TS:

x	$-\frac{1}{2}$
$f(x)$	- 0 +

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

Racines: (N) $5x - 1 = 0$
 $x = \frac{1}{5}$

(D) $3x = 0$
 $x = 0$

TS:

x	$\frac{1}{5}$	0
$5x-1$	-	0
$3x$	-	-
$f(x)$	+	0

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

Racines: $(-2x + 3) \cdot (-3x - 5) = 0$
 $\downarrow \quad \downarrow$
 $x = \frac{3}{2} \quad x = -\frac{5}{3}$

TS:

x	$-\frac{5}{3}$	$\frac{3}{2}$
$-2x+3$	+	+
$-3x-5$	+	0
$f(x)$	+	0

(4) $f(x) = \frac{7-2x}{x+1}$

Racines: (N) $7 - 2x = 0$
 $x = \frac{7}{2}$

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

TS:

x	-1	$\frac{7}{2}$
$7-2x$	+	+
$x+1$	-	0
$f(x)$	-	A

$$\begin{aligned}
 (5) \quad f(x) &= (4x+4)(2x-1) - (4x+4)(-5x+3) \\
 &= (4x+4) \cdot [(2x-1) - (-5x+3)] \\
 &= (4x+4) \cdot (7x-4)
 \end{aligned}$$

$$\begin{aligned}
 \text{Racines: } (4x+4) \cdot (7x-4) &= 0 \\
 \downarrow \qquad \qquad \downarrow \\
 x &= -1 \qquad x = \frac{4}{7}
 \end{aligned}$$

TS:

x	-1	$\frac{4}{7}$			
$4x+4$	-	0	+	+	+
$7x-4$	-	-	-	0	+
$f(x)$	+	0	-	0	+

$$(6) \quad f(x) = 9x^2 - 4 = (3x-2) \cdot (3x+2)$$

$$\begin{aligned}
 \text{Racines: } (3x-2) \cdot (3x+2) &= 0 \\
 \downarrow \qquad \qquad \downarrow \\
 x &= \frac{2}{3} \qquad x = -\frac{2}{3}
 \end{aligned}$$

TS:

x	$-\frac{2}{3}$	$\frac{2}{3}$			
$3x-2$	-	-	-	0	+
$3x+2$	-	0	+	+	+
$f(x)$	+	0	-	0	+

$$(7) \quad f(x) = \frac{2x+7}{-4x-8}$$

$$\begin{aligned}
 \text{Racines: } \textcircled{N} \quad 2x+7 &= 0 & \textcircled{D} \quad -4x-8 &= 0 \\
 x &= -\frac{7}{2} & x &= -2
 \end{aligned}$$

TS:

x	$-\frac{7}{2}$	-2			
$2x+7$	-	0	+	+	+
$-4x-8$	+	+	+	0	-
$f(x)$	-	0	+	+	-