3. $f'(x) = 3x^2 - 3$

Signe de $f'(x)$: $3x^2 - 3$ $\quad a = 3 \quad b = 0 \quad c = -3$

$\Delta = 0^2 - 4 \times 3 \times (-3) = 36$

$x_1 = \dfrac{0 - 6}{6} = -1 \qquad x_2 = \dfrac{0 + 6}{6} = 1$

x	$-\infty$		-1		1		$+\infty$
f'		$+$	0	$-$	0	$+$	
f	$-\infty$	↗	$f(-1)$	↘	$f(1)$	↗	$+\infty$

$\lim\limits_{x \to -\infty} f(x) = -\infty \qquad f(-1) = -1 + 3 + 1 = 3$

$f(1) = 1 - 3 + 1 = -1 \qquad \lim\limits_{x \to +\infty} f(x) = +\infty$