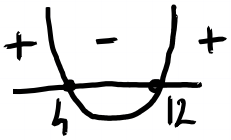
7) $f(x) = x^3 - 24x^2 + 144x$

$f'(x) = 3x^2 - 48x + 144$

Signe de f' : $a = 3$  $b = -48$ $c = 144$

$\Delta = (-48)^2 - 4 \times 3 \times 144 = 576 > 0$

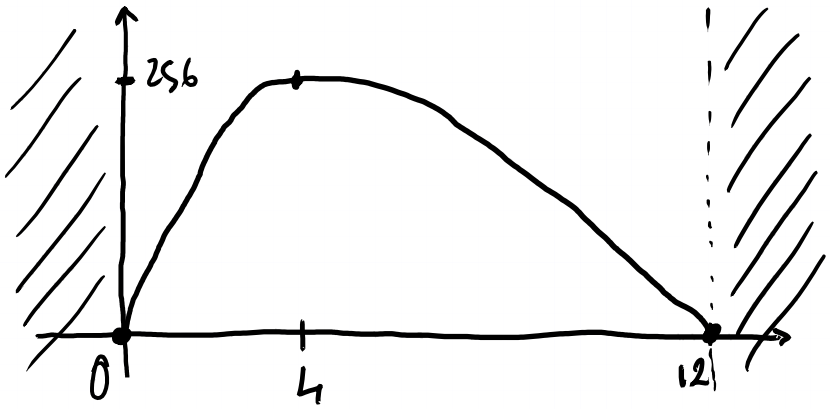


$x_1 = \frac{48 - 24}{6} = 4$ $\quad x_2 = \frac{48 + 24}{6} = 12$

Tableau de variations :

x	0		4		12
f'	‖	$+$	0	$-$	0 ‖
f	$f(0)$	↗	$f(4)$	↘	$f(12)$

$f(0) = 0$ $\quad f(4) = 256$ $\quad f(12) = 0$



256 est un maximum atteint en $x = 4$.