3120 (a) $y = x^3 - 6x^2$

Derivatans nollställen

$y'(x) = 3x^2 - 12x \quad (= 3x(x-4))$

$y'(x) = 0$ ger $3x^2 - 12x = 0$

$3x(x-4) = 0$

$x = 0$ eller $x = 4$

$y'(-1) = 15 > 0$
$y'(1) = -3 < 0$
$y'(5) = 15 > 0$

Teckentabell

x		0		4	
y'	+	0	−	0	+
y	↗	0 MAX	↘	−32 MIN	↗

Extremvärden

$x = 0$ ger $y_{max} = 0$

$x = 4$ ger $y_{min} = -32$

x	-1	2	5
y	-7	-16	-25

Grafen