

3120

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

Derivations nullstellen

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

$$y'(x) = 0 \text{ ger } 3x^2 - 12x = 0$$

$$3x(x-4) = 0$$

$$x = 0 \text{ eller } x = 4$$

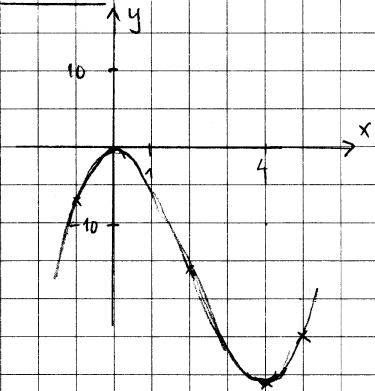
Teckenbrett

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

Extremvärden

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

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

Grafen

$$y'(-1) = 15 > 0$$

$$y'(1) = -3 < 0$$

$$y'(5) = 15 > 0$$