

17.1.

(64)

$$f(x) = 3x^4 - 16x^3 + 18x^2 \quad \text{on } [-1, 4]$$

$$f'(x) = 12x^3 - 48x^2 + 36x$$

$$= 12x(x^2 - 4x + 3)$$

$$= 12x(x-1)(x-3)$$

x	-1		0		1		3		4
$f'(x)$	-	-	0	+	0	-	0	+	+
$f(x)$	37	↘	0	↗	5	↘	-27	↗	272

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abs. min $f(3) = -27.$

abs. max ~~$f(4) = 272.$~~ $f(-1) = 37$

local min $f(0) = 0$

$f(3) = -27.$

local max $f(1) = 5.$