

$$f(x) = ax^2 - x^3$$

$$0 < a$$

5.10

אזורי:
 $a > x$

אזורי:
 $x < a$

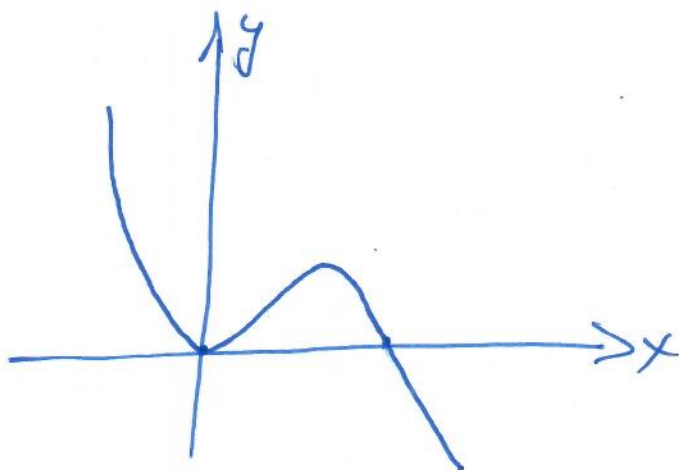
אזורי: (1) (2)

$$0 = x^2(a - x)$$

↙
 $x = 0$

↘
 $x = a$

(2)



$$g(x) = \ln(ax^2 - x^3)$$

(1) (2)

$x \neq 0$ $x < a$ אזורי:

$x = 0$
 $x = a$

אזורי:

|| אזורי: (2)

$$g'(x) = \frac{2ax - 3x^2}{ax^2 - x^3}$$

(3)

$$0 = x(2a - 3x)$$

\swarrow
 $x \neq 0$

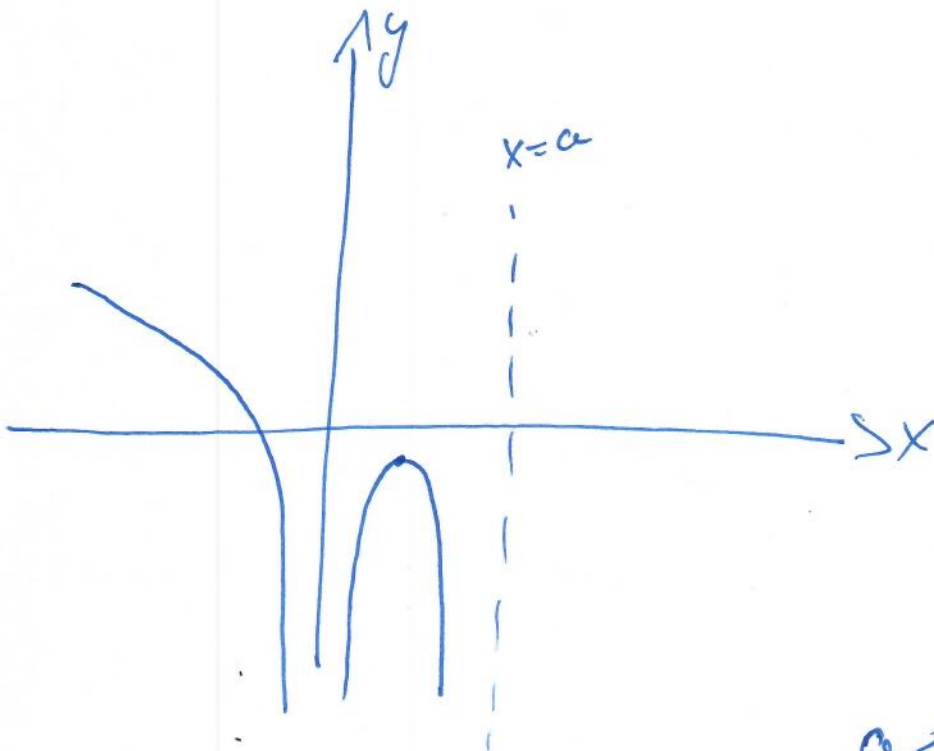
$$3x = 2a$$

$$\boxed{x = \frac{2a}{3}}$$

x	-a	0	$\frac{a}{2}$	$\frac{2a}{3}$	$\frac{3}{4}a$
$g'(x)$	-	/	+	0	-
$g(x)$	\searrow	/	\nearrow	$\frac{m}{a}$ x	\searrow

$$\max\left(\frac{2a}{3}, \ln\left(\frac{4a^3}{27}\right)\right)$$

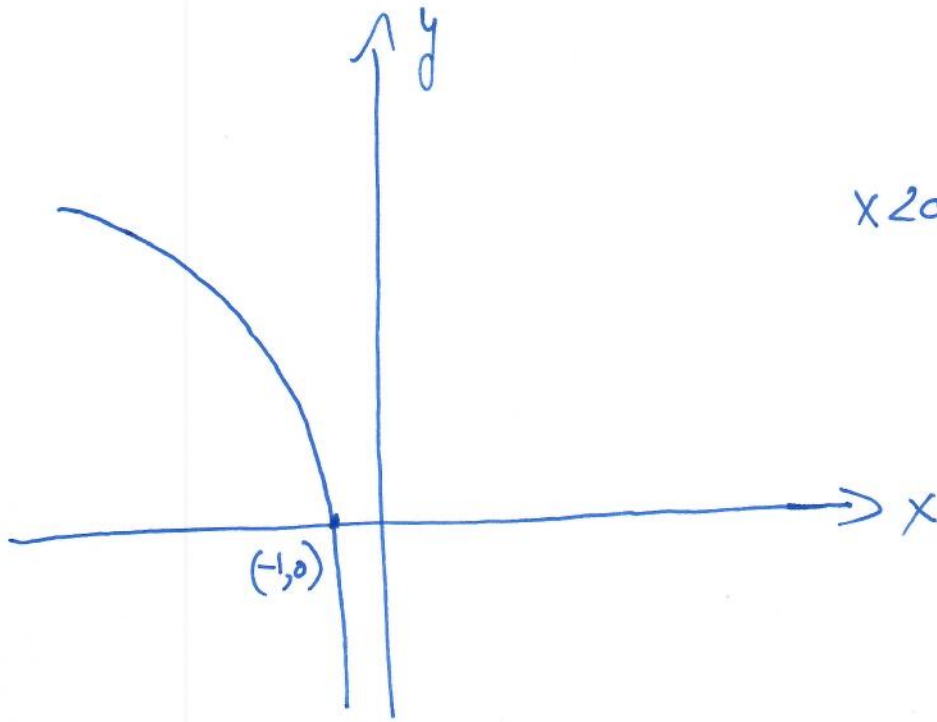
(1) (c)



$$a < 1.889 \quad (2)$$

לבדוק אתי עובדו האם הוא נמצא.

6



$x < 0$ $y > 0$

$x < 0$ $y < 0$