Найдите все значения a, при каждом из которых система

x=sint [12;23]
y=cost

$$\begin{cases} 5\cdot 2^{|x|}+6|x|+7=5y+6x^2+4a, \\ x^2+y^2=1 \end{cases}$$

имеет единственное решение.

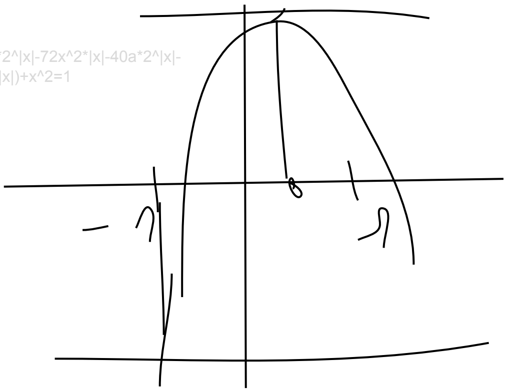
5*2^|sint|+6|sint|+7=5cost+6sin^2 t+4a

5*2^|x|+6|x|+7=5y+6x^2+4a

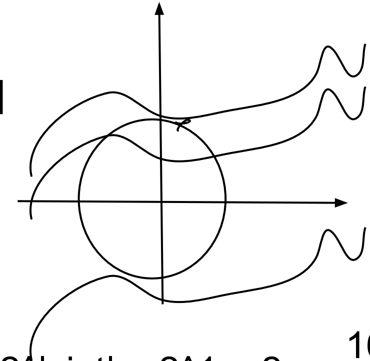
5y+6x^2+4a>0

x^2=1-y^2
5*2^|x|+6|x|+7=5y+6(1-y^2)+4a
5*2^|x|+6|x|+7=5y+6-6y^2+4a
5*2^|x|+6|x|+1=5y-6y^2+4a

(5*2^|x|+6|x|+7-6x^2-4a)/5=y
(5*2^|x|+6|x|+7-6x^2-4a)^2/25+x^2=1
25*4^|x|+36x^2+49+36x^4+16a^2+84|x|-60x^2*2^|x|-72x^2*|x|-40a*2^|x|-48a*|x|-56a+48ax^2+30*|x|*2^(1+|x|)+35*2^(1+|x|)+x^2=1



[-5+4a;169/24+4a]



-5+4a=23
a=(23+5)/4=7

1=2^0<=2^|sint|<=2^1<=2
5<=5*2^|sint|<=10
0*6<=6*|sint|<=6

169/24+4a=12
4a=(288-169)/24=119/2
a=119/96

y(t)=5cost+6sin^2 t+4a
y(t)=5cost+6-6cos^2 t+4a
cost=z, |z|<=1
y(z)=-6z^2+5z+6+4a
zв=5/12 max
-1 min
y(5/12)=-6(5/12)^2+25/12+6+4a
=-25/24+25/12+6+4a=
=169/24+4a
y(-1)=-6-5+6+4a=-5+4a