

Matching Graphs Activity

Exponents

This is a group activity that works well with groups of three or four. There are 10 of each type of card, each with a different color. One type of card is a function card. Another type of card has the graph of each function. Other cards have the properties of the graph (such as domain and range) and the graph of the inverse. Each group should get a set of cards which they will sort into piles of cards which match to a graph. After the cards have been matched give each group one blank information sheet to fill in. This makes it easier to check that they have sorted the cards correctly.

This is a good activity to do to help students see the connection between graphs and equations. This activity is also very good to show the relationships between the graph of an exponential function and the graph of its logarithmic inverse.

Notice that there are only 8 cards to a page so the first page of each type contains cards 1-8 and the second page of each type has four each of cards 9 and 10.

Exponential Functions

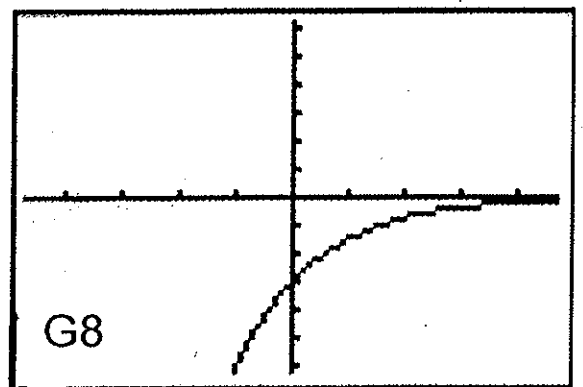
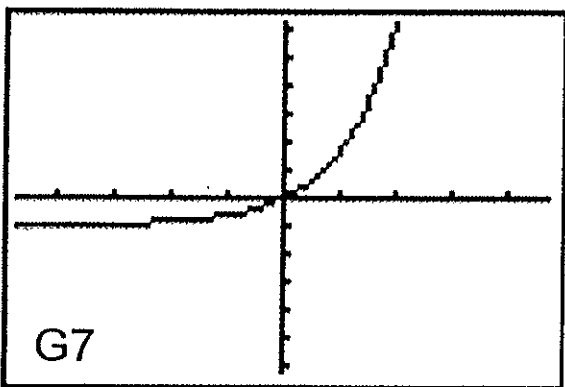
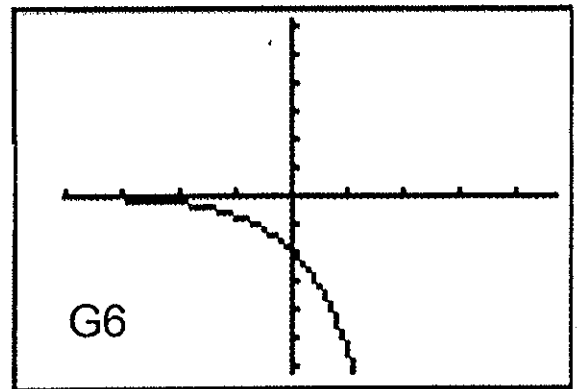
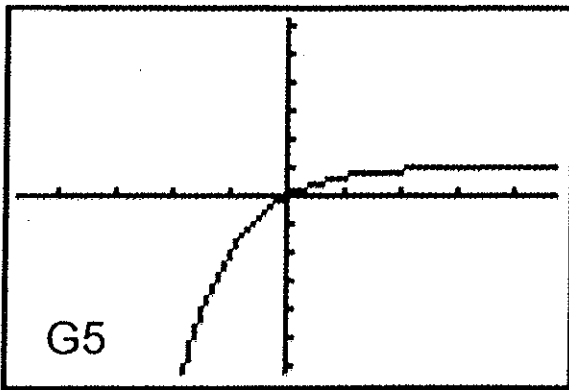
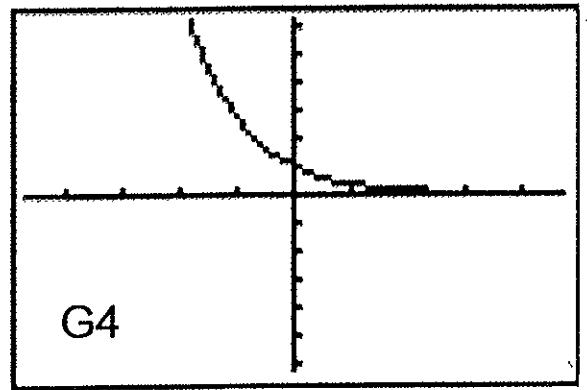
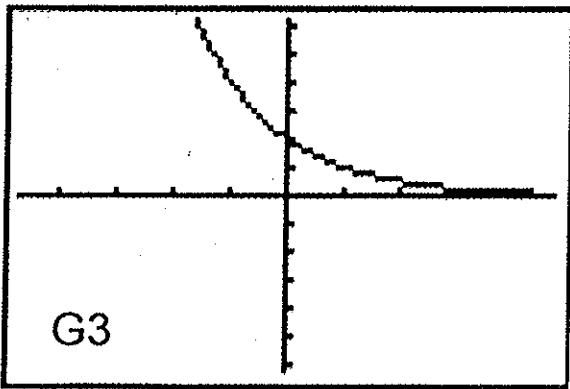
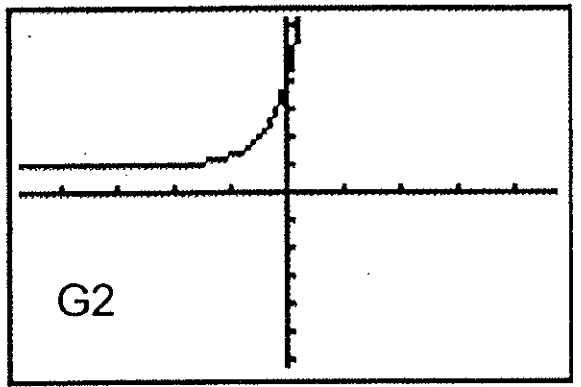
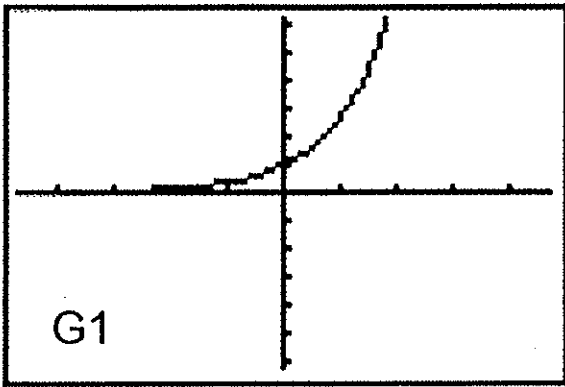
Matching Activity

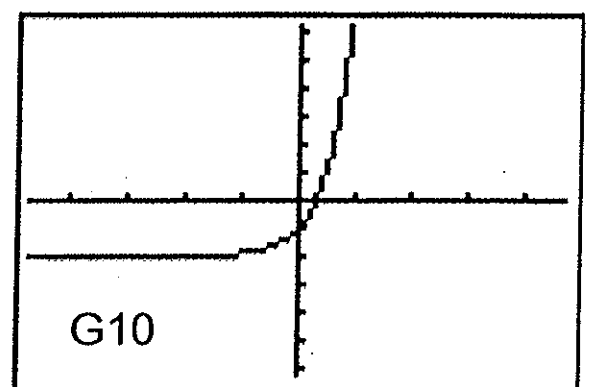
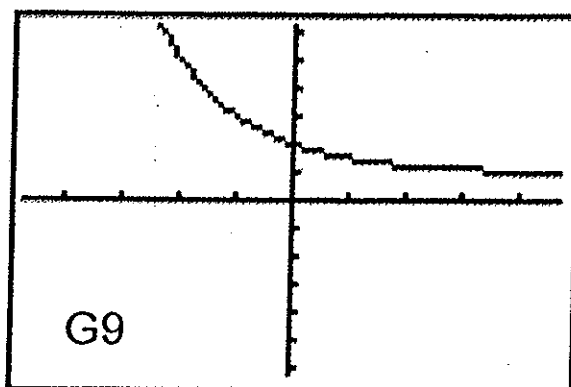
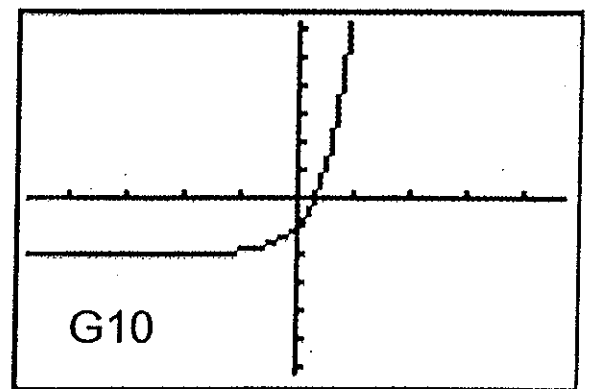
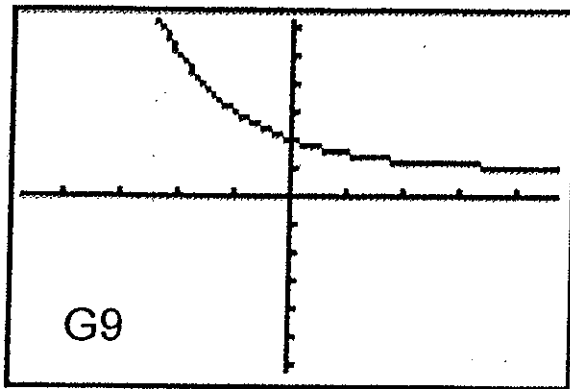
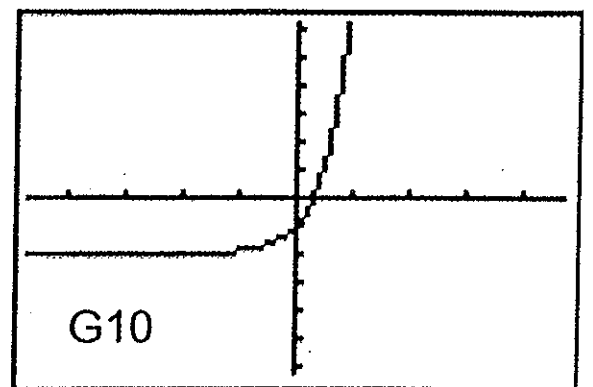
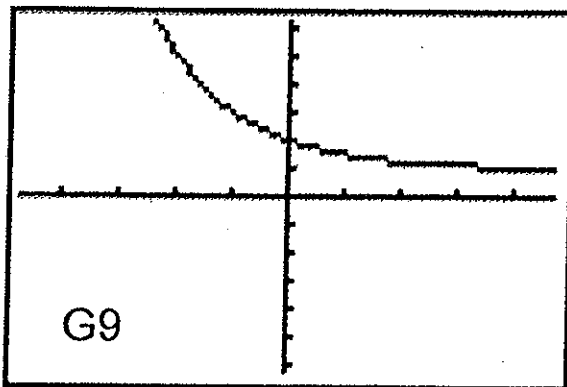
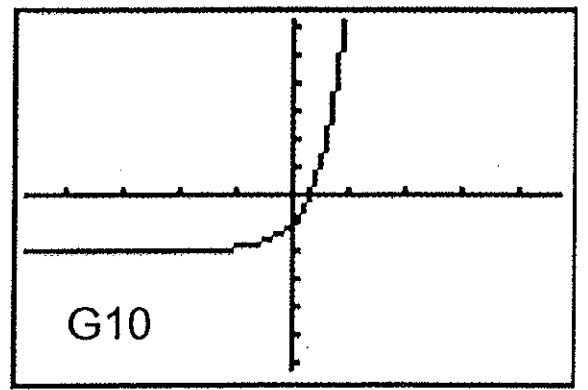
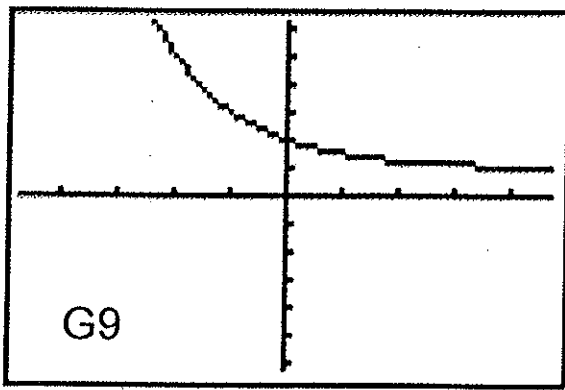
Graph	Equation	Properties	Inverse
G1			
G2			
G3			
G4			
G5			
G6			
G7			
G8			
G9			
G10			

Exponential Functions

Matching Activity

Graph	Equation	Properties	Inverse
<i>G1</i>	E10	P2 or P8	I 6
<i>G2</i>	E2	P4	I 3
<i>G3</i>	E9	P6	I 10
<i>G4</i>	E6	P2 or P8	I 8
<i>G5</i>	E7	P10	I 9
<i>G6</i>	E1	P9	I 4
<i>G7</i>	E5	P7	I 1
<i>G8</i>	E4	P5	I 2
<i>G9</i>	E8	P3	I 5
<i>G10</i>	E3	P1	I 7





$$F(x) = -2e^x$$

E 1

$$f(x) = 3 * 10^x + 1$$

E 2

$$f(x) = 1^{-x} - 2$$

E 3

$$F(x) = -3 * 2^{-x}$$

E 4

$$F(x) = e^x - 1$$

E 5

$$f(x) = e^{-x}$$

E 6

$$f(x) = -1 * 3^{-x} + 1$$

E 7

$$f(x) = 0.5^x + 1$$

E 8

$$f(x) = 2 * 0.5^x$$

E 9

$$f(x) = e^x$$

E10

$$f(x) = 2 * 0.5^x$$

E 9

$$f(x) = e^x$$

E10

$$f(x) = 2 * 0.5^x$$

E 9

$$f(x) = e^x$$

E10

$$f(x) = 2 * 0.5^x$$

E 9

$$f(x) = e^x$$

E10

Domain = $(-\infty, \infty)$
Range = $(-\infty, \infty)$
Y intercept = -1
X intercept = 0.30103
Asymptotes = $y = -2$

P1

Domain = $(-\infty, \infty)$
Range = $(0, \infty)$
Y intercept = 1
X intercept = none
Asymptotes = x axis

P2

Domain = $(-\infty, \infty)$
Range = $(1, \infty)$
Y intercept = 2
X intercept = none
Asymptotes = $y = 1$

P3

Domain = $(-\infty, \infty)$
Range = $(0, \infty)$
Y intercept = 4
X intercept = none
Asymptotes = $y = 1$

P4

Domain = $(-\infty, \infty)$
Range = $(-\infty, 0)$
Y intercept = -3
X intercept = none
Asymptotes = $y = 0$

P5

Domain = $(-\infty, \infty)$
Range = $(0, \infty)$
Y intercept = 2
X intercept = none
Asymptotes = $y = 0$

P6

Domain = $(-\infty, \infty)$
Range = $(-1, \infty)$
Y intercept = 0
X intercept = 0
Asymptotes = $y = -1$

P7

Domain = $(-\infty, \infty)$
Range = $(0, \infty)$
Y intercept = 1
X intercept = none
Asymptotes = x axis

P8

Domain = $(-\infty, \infty)$
Range = $(-\infty, 0)$
Y intercept = -2
X intercept = none
Asymptotes = $y=0$

P9

Domain = $(-\infty, \infty)$
Range = $(-\infty, 1)$
Y intercept = 0
X intercept = 0
Asymptotes = $y= 1$

P10

Domain = $(-\infty, \infty)$
Range = $(-\infty, 0)$
Y intercept = -2
X intercept = none
Asymptotes = $y=0$

P9

Domain = $(-\infty, \infty)$
Range = $(-\infty, 1)$
Y intercept = 0
X intercept = 0
Asymptotes = $y= 1$

P10

Domain = $(-\infty, \infty)$
Range = $(-\infty, 0)$
Y intercept = -2
X intercept = none
Asymptotes = $y=0$

P9

Domain = $(-\infty, \infty)$
Range = $(-\infty, 1)$
Y intercept = 0
X intercept = 0
Asymptotes = $y= 1$

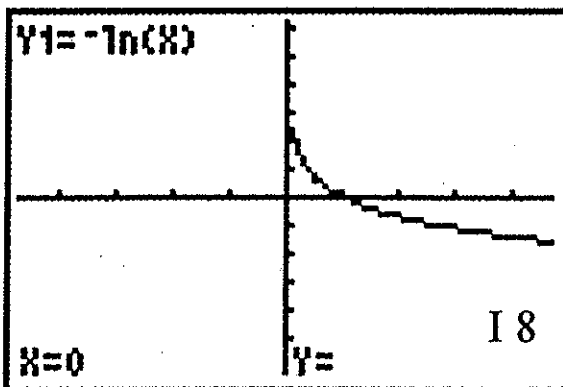
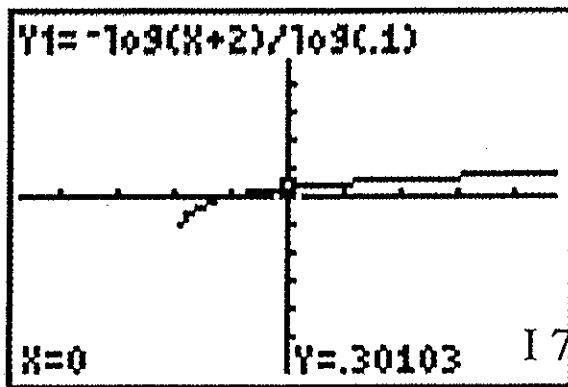
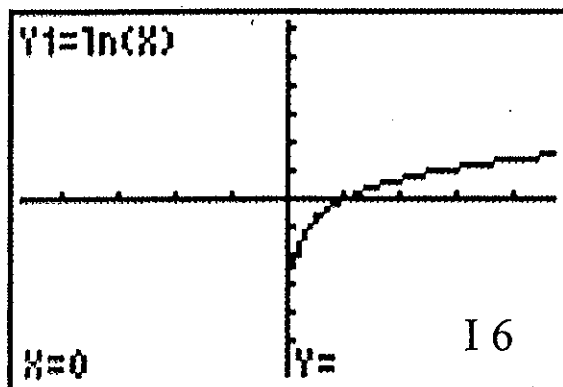
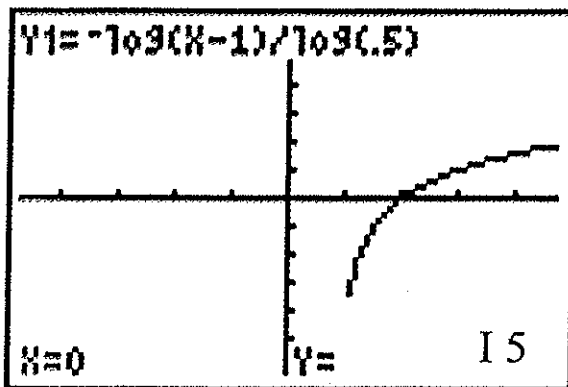
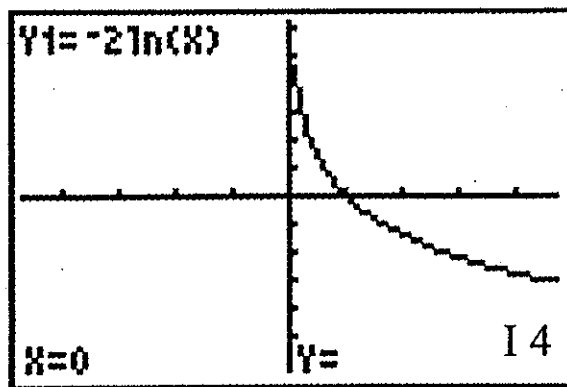
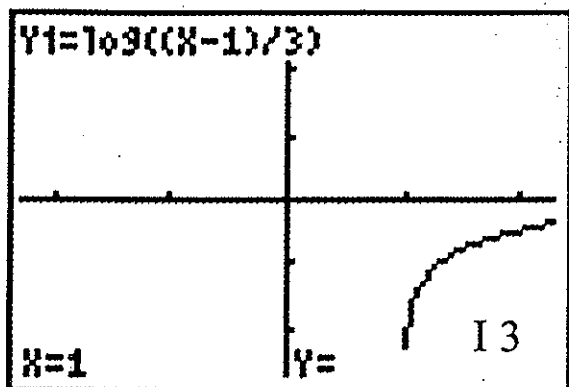
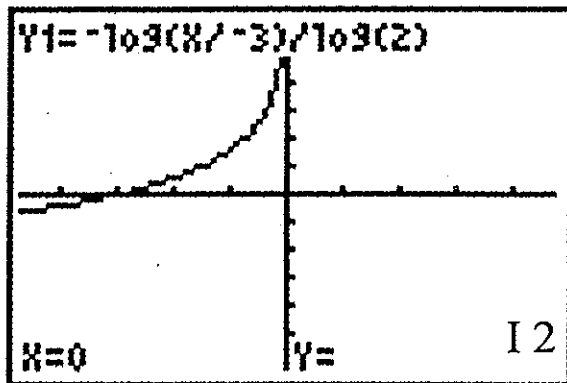
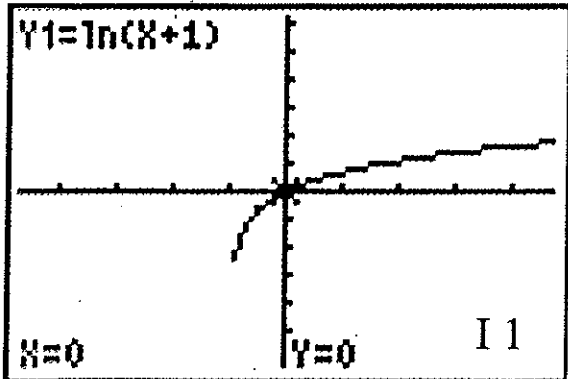
P10

Domain = $(-\infty, \infty)$
Range = $(-\infty, 0)$
Y intercept = -2
X intercept = none
Asymptotes = $y=0$

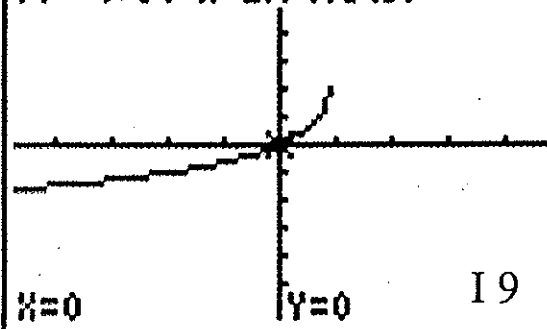
P9

Domain = $(-\infty, \infty)$
Range = $(-\infty, 1)$
Y intercept = 0
X intercept = 0
Asymptotes = $y= 1$

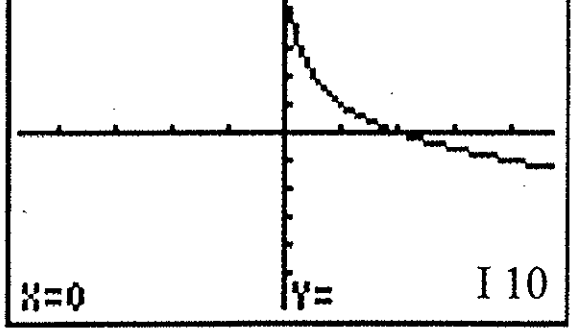
P10



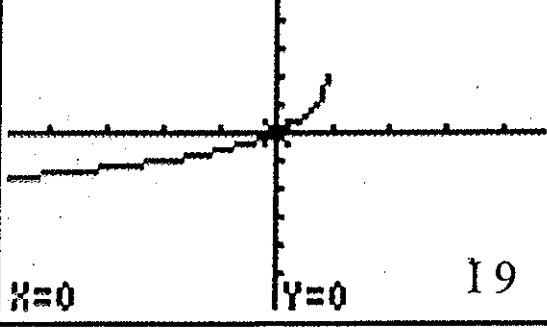
$$Y1 = -\log(-X+1)/\log(3)$$



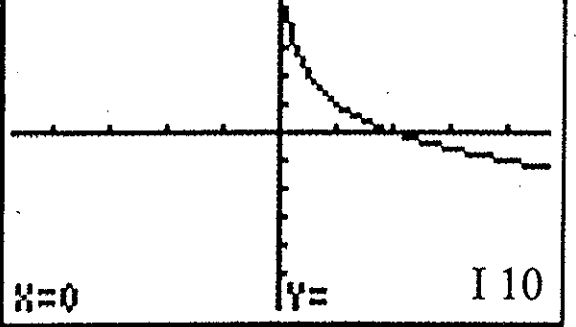
$$Y1 = \log(X/2)/\log(5)$$



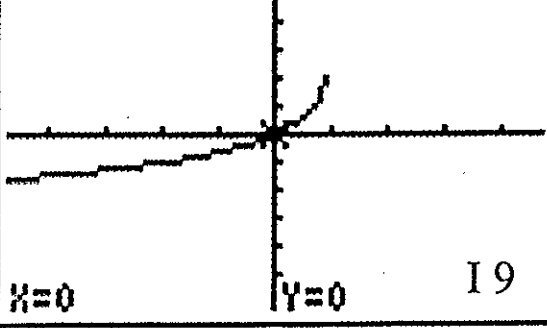
$$Y1 = -\log(-X+1)/\log(3)$$



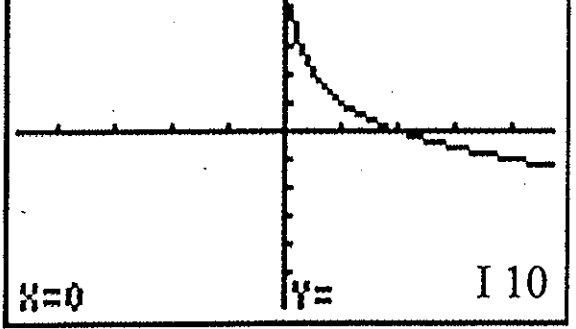
$$Y1 = \log(X/2)/\log(5)$$



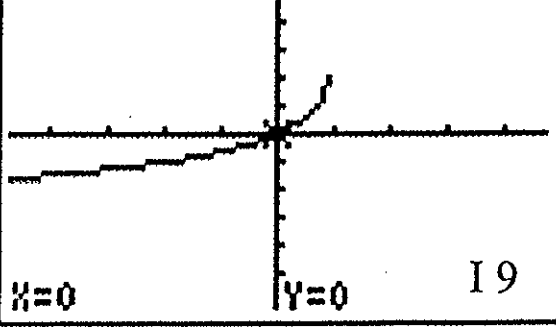
$$Y1 = -\log(-X+1)/\log(3)$$



$$Y1 = \log(X/2)/\log(5)$$



$$Y1 = -\log(-X+1)/\log(3)$$



$$Y1 = \log(X/2)/\log(5)$$

