

HW 73

ch 5 review

2. $30^{\sqrt{3}} \approx 361.784$

4. $1278^{1/5} \approx 4.181$

6. $-14(5^{-.8}) \approx -3.863$

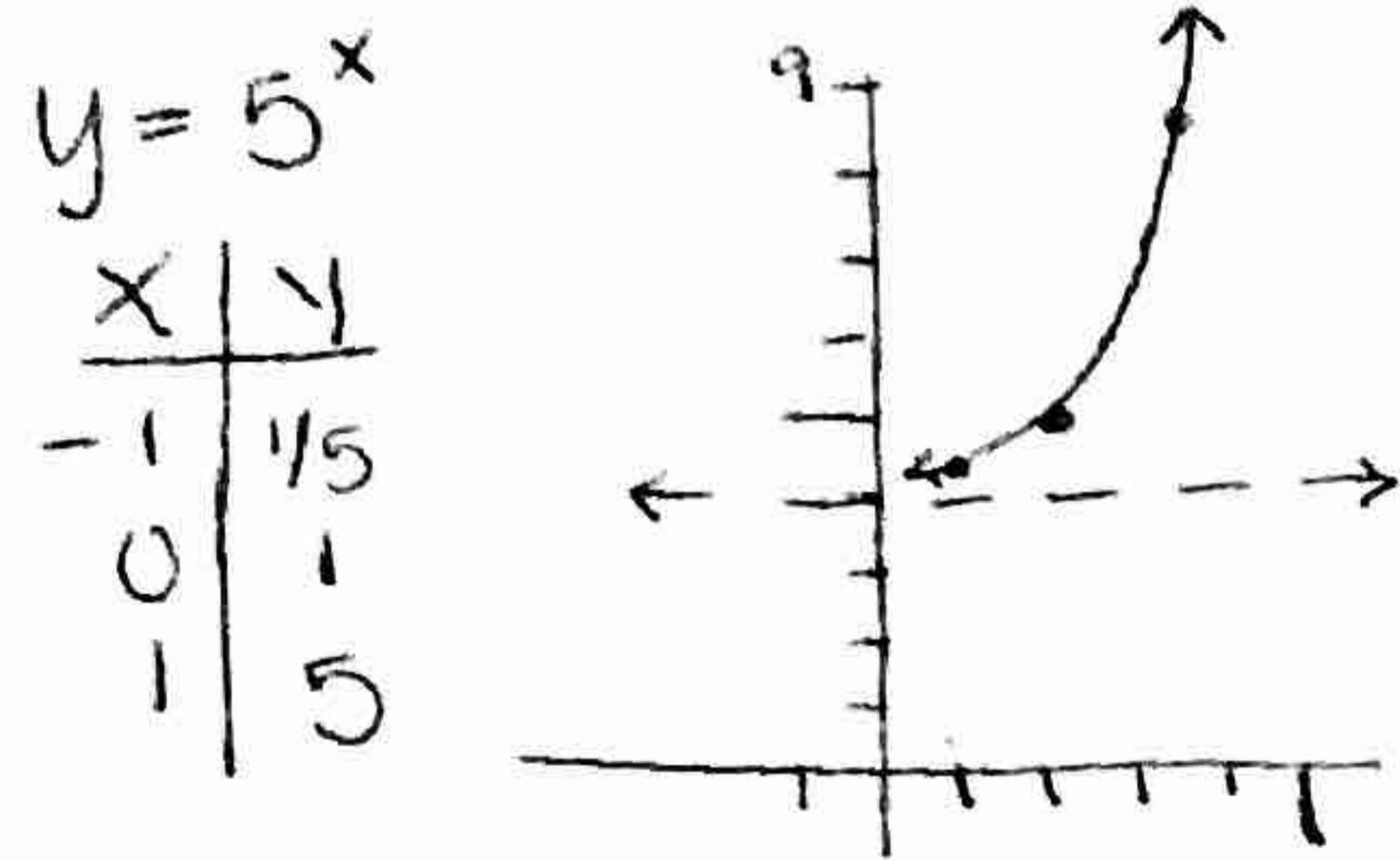
7. D2

8. $-(x-2)$ R2, over y-axis

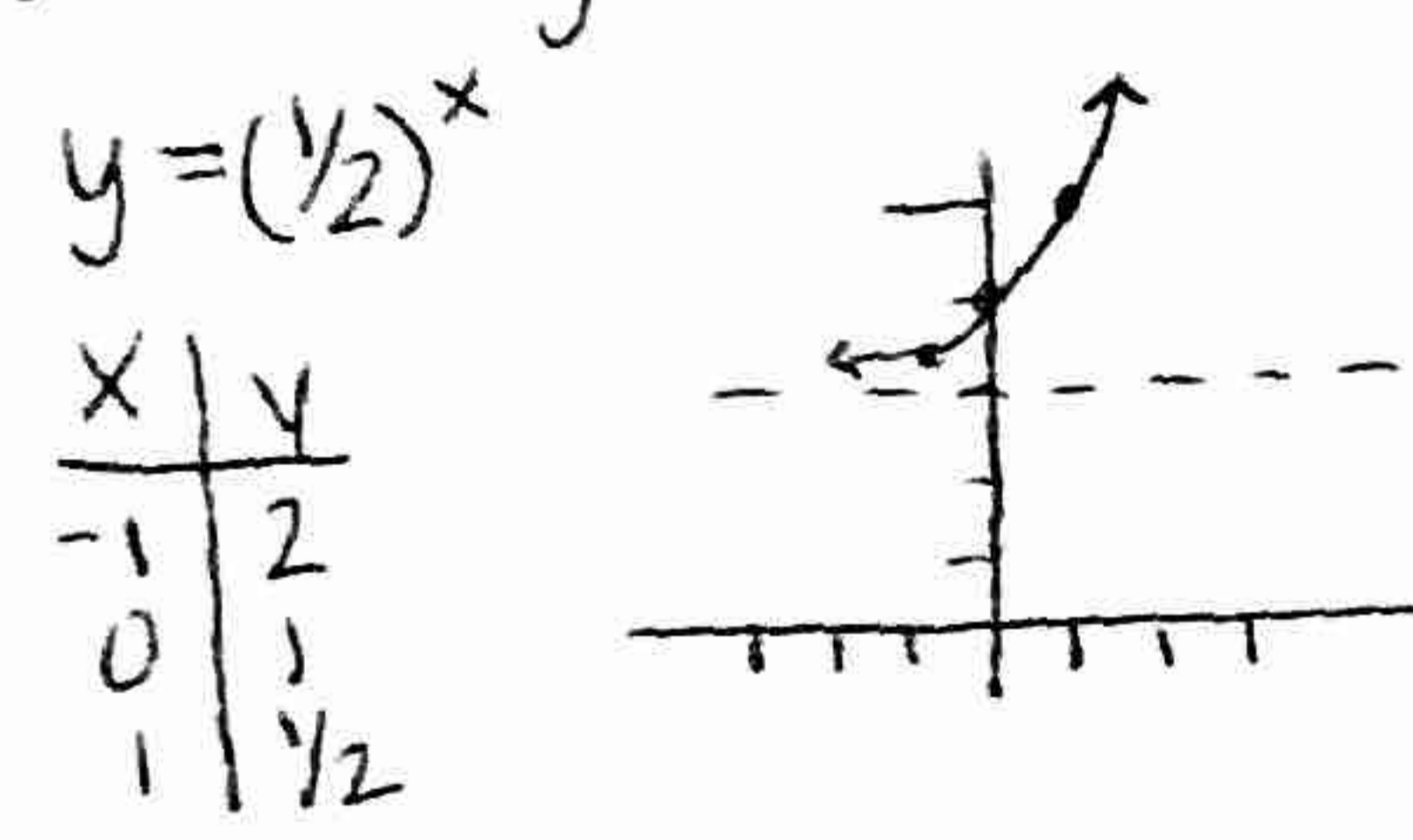
11. over x-axis, U1

13. over x-axis, L2

17. R2, U4



19. over y-axis, U3



21. $3^{-1(x-3)} = 3^2$

$$-x + 3 = 2$$

$$-x = -1$$

$$\boxed{x = 1}$$

22. $3^{x+3} = 3^{-4}$

$$x + 3 = -4$$

$$\boxed{x = -7}$$

23. $3x - 5 = 7$

$$3x = 12$$

$$\boxed{x = 4}$$

24. $8 - 2x = -3$

$$-2x = -11$$

$$\boxed{x = 11/2}$$

25. $e^8 \approx 2980.958$

34. $A = 4500(1 + \frac{.0025}{n})^{30n}$

- n = 1
- n = 2
- n = 4
- n = 12
- n = 365

$$A = 4500 e^{.0025(30)}$$

38. $\log_{25} 125 = 3/2$

41. $\log 1000 = x$

$$10^x = 1000$$

$$\boxed{x = 3}$$

40. $\ln 1 = 0$

43. $\log_2 1/4 = x$

$$2^x = 1/4$$

$$2^x = 2^{-2}$$

$$\boxed{x = -2}$$

45. $x + 7 = 14$

$$\boxed{x = 7}$$

47. $x + 9 = 4$

$$\boxed{x = -5}$$

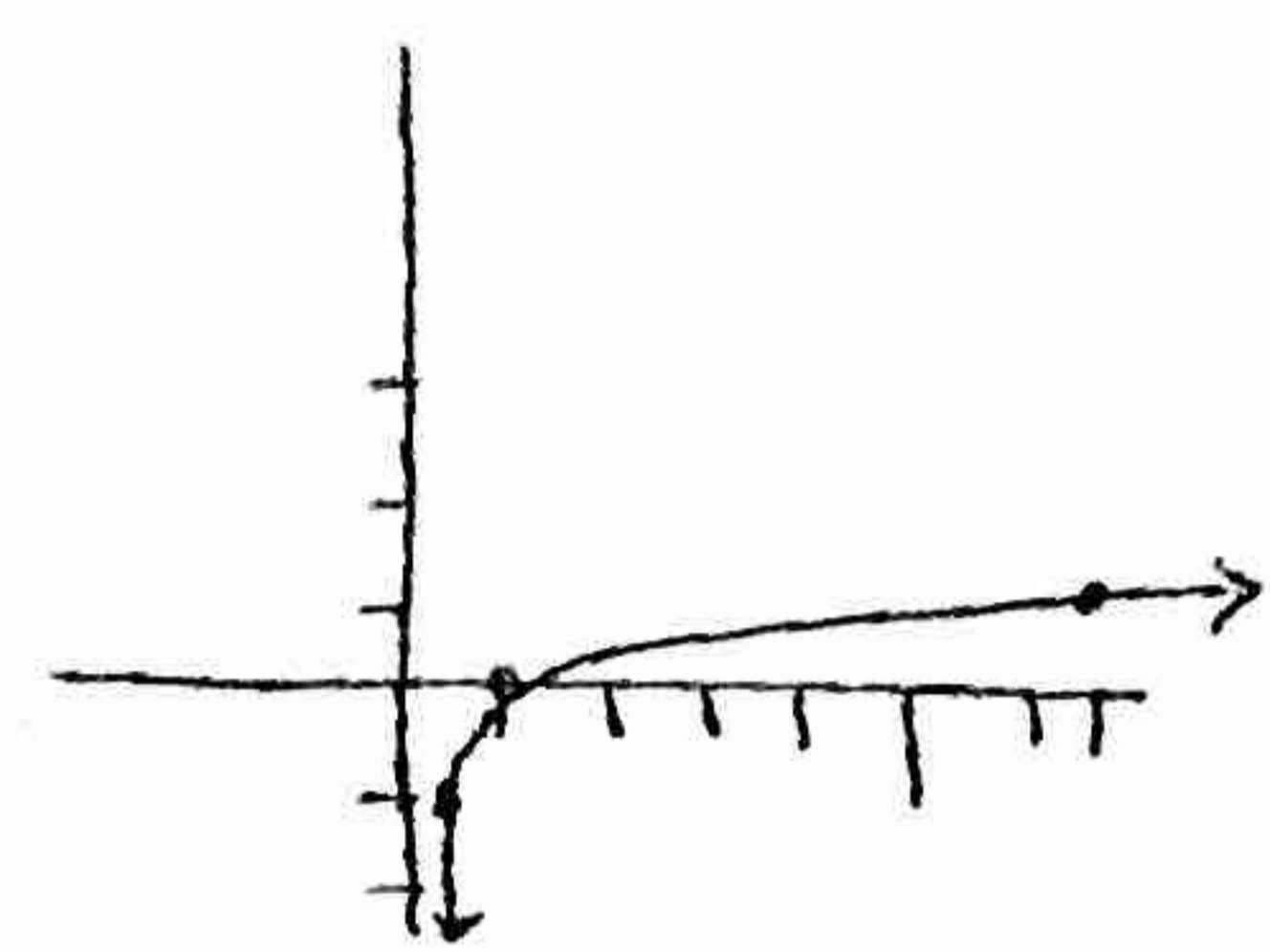
49. $7^x = y$

x	y
-1	1/7
0	1
1	7

 \rightarrow

x	y
1/7	-1
1	0
7	1

D: (0, ∞)
 x-int: ~~none~~ (1, 0)
 VA: x = 0



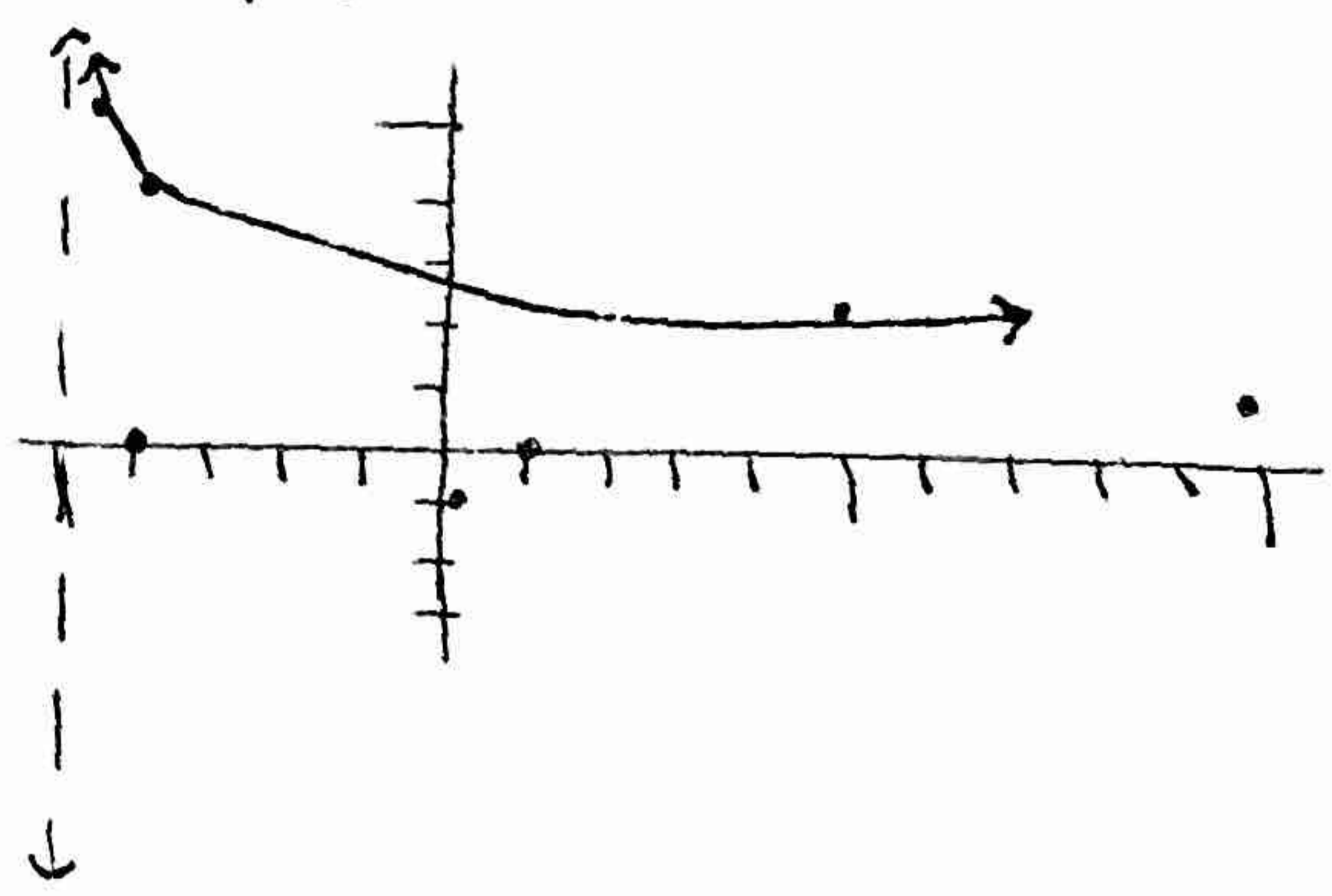
51. L5, over x-axis, U4

10^x

x	y
-1	1/10
0	1
1	10

 \rightarrow

x	y
1/10	-1
1	0
10	1



62. $\frac{\log 200}{\log 12} \approx 2.132$ $\frac{\ln 200}{\ln 12} \approx 2.132$

69. $\log_5 5 + 2 \log_5 x$

$$= \boxed{1 + 2 \log_5 x}$$

$$70. \log 7 + 4 \log x$$

$$71. \log_3 9 - \frac{1}{2} \log_3 x$$
$$= \boxed{2 - \frac{1}{2} \log_3 x}$$

$$76. \log_w \left(\frac{y}{z^2} \right)$$

$$78. \ln (x^3 (x+1)^2)$$

$$85. x = \log_5 125$$

$$x = \frac{\log 125}{\log 5}$$

$$\boxed{x = 3}$$

$$87. e^4 = x$$

$$\boxed{x \approx 54.598}$$

$$89. 4x = x^2 + 3$$

$$0 = x^2 - 4x + 3$$

$$0 = (x-3)(x-1)$$

$$\boxed{x = 3} \text{ and } \boxed{x = 1}$$

$$91. 2^x = 32$$

$$\boxed{x = 5}$$

$$95. e^{8.2} = 3x$$

$$\frac{e^{8.2}}{3} = x$$

$$\boxed{x \approx 1213.65}$$

$$97. \ln \frac{x}{3} = 2$$

$$e^2 = \frac{x}{3}$$

$$3e^2 = x$$

$$\boxed{x \approx 22.167}$$

$$101. x-1 = \frac{x-2}{x+2}$$

$$x^2 + x - 2 = x - 2$$

$$x^2 = 0$$

$$\boxed{x = 0}$$

$$109. A = 8500 e^{.035(t)}$$

$$25,500 = 8500 e^{.035(t)}$$

$$3 = e^{.035(t)}$$

$$\ln 3 = 0.035t$$

$$\boxed{t \approx 31.4}$$