Evaluating Logarithms

Evaluate each logarithm.

1) $log_2 4 =$
2) $log_2 8 =$
3) $log_3 27 =$
4) $log_3 9 =$
5) $log_4 16 =$
6) $log_2 32 =$
7) $log_8 64 =$
8) $log_2 \frac{1}{2} =$
9) $log_2 \frac{1}{8} =$
10) $log_3 \frac{1}{3} =$
11) $log_4 \frac{1}{16} =$
12) $log_3 \frac{1}{9} =$
13) $log_7 \frac{1}{49} =$
14) $log_{64} \frac{1}{4} =$
15) $log_{625} 5 =$
16) $log_2 \frac{1}{64} =$
17) $log_4 \frac{1}{64} =$
18) $log_{36} \frac{1}{6} =$

Circle the points which are on the graph of the given logarithmic functions.

19) $y = 2\,log_3(x+1) + 2$	$(2,4)$,	$(8,4)$,	$(0,3)$
20) $y = 3\,log_3(3x) - 2$	$(3,6)$,	$(3,4)$,	$(\frac{1}{3},2)$
21) $y = -2\,log_2\,2(x+1) + 1$	$(3,-3)$,	$(2,1)$,	$(5,5)$
22) $y = 4\,log_4(4x) + 7$	$(1,7)$,	$(1,11)$,	$(4,8)$
23) $y = -\,log_2\,2(x+3) + 1$	$(-2,0)$,	$(1,2)$,	$(5,3)$
24) $y = -\,log_5(x-3) + 8$	$(4,8)$,	$(8,8)$,	$(4,4)$
25) $y = 3\,log_4(x+1) + 3$	$(3,3)$,	$(3,6)$,	$(0,4)$