Logarithmic Equations

Solve for x.

1)
$$\log_2 x = 9$$
 2) $\log_9 \left(\frac{1}{81}\right) = x$

3)
$$\log_{16} x = \frac{1}{2}$$

5) $\log_3 27 = x$

6) log_x 32 = 5

 $\log_3 x = 4$

4)

7) $\log_{x} 36 = 2$

8) $\log_4 256 = x$

9) $\log_4 x = 3$

10)
$$\log_2\left(\frac{1}{32}\right) = x$$