34. Since the point $\left(\frac{1}{2}, -1\right)$ is on the graph, we have $-1 = \log_a\left(\frac{1}{2}\right)$ $\Leftrightarrow$ $a^{-1} = \frac{1}{2}$ $\Leftrightarrow$ $a = 2$. Thus the function is $y = \log_2 x$.

36. Since the point $(9, 2)$ is on the graph, we have $2 = \log_a 9$ $\Leftrightarrow$ $a^2 = 9$ $\Leftrightarrow$ $a = 3$. Thus the function is $y = \log_3 x$.