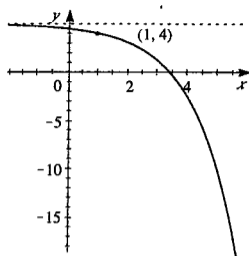33. $f(x) = 5 - 2^{x-1}$

The graph of f is obtained by shifting the graph of $y = 2^x$ to the right 1 unit, reflecting about the x-axis, then shifting upward 5 units.

Domain: $(-\infty, \infty)$

Range: $(-\infty, 5)$

Asymptote: $y = 5$

35. $f(x) = 2^{|x|}$

Note that $f(x) = \begin{cases} 2^x & x \geq 0 \\ 2^{-x} & x < 0. \end{cases}$

So, for $x \geq 0$ the graph of f is just the graph of $y = 2^x$; for $x < 0$ the graph of f is obtained by reflecting the graph of $y = 2^x$ about the y-axis.

Domain: $(-\infty, \infty)$

Range: $[1, \infty)$

Asymptote: None