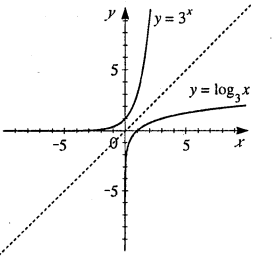
38. V

40. IV

42. I

44. The graph of $y = \log_3 x$ is obtained from the graph of $y = 3^x$ by reflecting it about the line $y = x$.



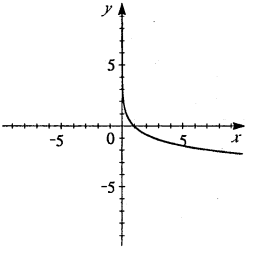
46. $f(x) = -\log_{10} x$

The graph of f is obtained from the graph of $y = \log_{10} x$ by reflecting it about the x-axis.

Domain: $(0, \infty)$

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

Vertical asymptote: $x = 0$



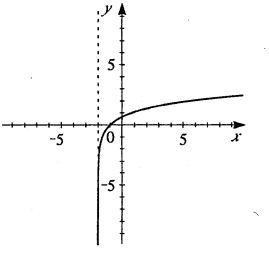
48. $g(x) = \ln(x + 2)$

The graph of g is obtained from the graph of $y = \ln x$ by shifting it to the left 2 units.

Domain: $(-2, \infty)$

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

Vertical asymptote: $x = -2$



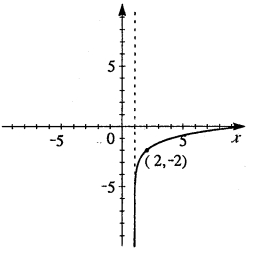
50. $y = \log_3(x - 1) - 2$

The graph of $y = \log_3(x - 1) - 2$ is obtained from the graph of $y = \log_3 x$ by shifting it to the right 1 unit and then downward 2 units.

Domain: $(1, \infty)$

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

Vertical asymptote: $x = 1$



52. $y = 1 + \ln(-x)$

The graph of $y = 1 + \ln(-x)$ is obtained from the graph of $y = \ln x$ by reflecting it about the y-axis and then shifting it upward 1 unit.

Domain: $(-\infty, 0)$

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

Vertical asymptote: $x = 0$