

- The graph of a function f is given at the left.
 - State the value of $f(-1)$.
 - Estimate the value of $f(2)$.
 - For what values of x is $f(x) = 2$?
 - Estimate the values of x such that $f(x) = 0$.
 - State the domain and range of f .
- If $f(x) = x^3$, evaluate the difference quotient $\frac{f(2+h) - f(2)}{h}$ and simplify your answer.
- Find the domain of the function.
 - $f(x) = \frac{2x+1}{x^2+x-2}$
 - $g(x) = \frac{\sqrt[3]{x}}{x^2+1}$
 - $h(x) = \sqrt{4-x} + \sqrt{x^2-1}$
- How are graphs of the functions obtained from the graph of f ?
 - $y = -f(x)$
 - $y = 2f(x) - 1$
 - $y = f(x-3) + 2$
- Without using a calculator, make a rough sketch of the graph.
 - $y = x^3$
 - $y = (x+1)^3$
 - $y = (x-2)^3 + 3$
 - $y = 4 - x^2$
 - $y = \sqrt{x}$
 - $y = 2\sqrt{x}$
 - $y = -2^x$
 - $y = 1 + x^{-1}$
- Let $f(x) = \begin{cases} 1 - x^2 & \text{if } x \leq 0 \\ 2x + 1 & \text{if } x > 0 \end{cases}$
 - Evaluate $f(-2)$ and $f(1)$.
 - Sketch the graph of f .
- If $f(x) = x^2 + 2x - 1$ and $g(x) = 2x - 3$, find each of the following functions.
 - $f \circ g$
 - $g \circ f$
 - $g \circ g \circ g$