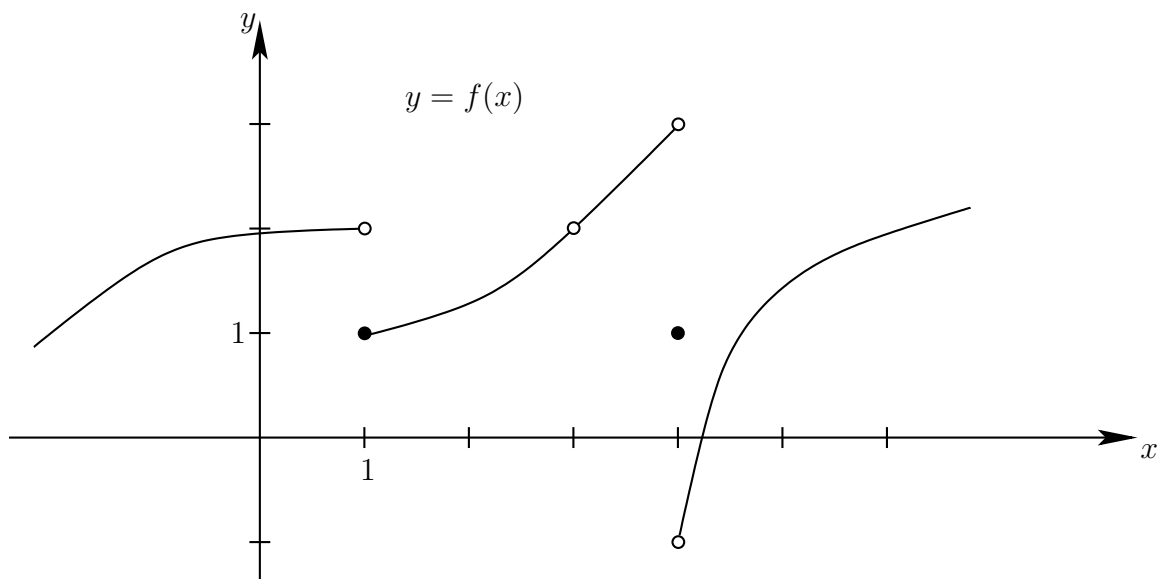


(1) [8 points] Let $f(x) = x^3 + 2x^2$ and $g(x) = 3x^2 - 1$.

(i) Determine fg and state the domain.

(ii) Determine $\frac{f}{g}$ and state the domain.

(2) [7 points] Consider the graph of $y = f(x)$:



(i) What is $\lim_{x \rightarrow 1^+} f(x)$?

(ii) What is $\lim_{x \rightarrow 1^-} f(x)$?

(iii) What is $\lim_{x \rightarrow 3} f(x)$?

(iv) What is $\lim_{x \rightarrow 4} f(x)$?