

1. Find the coordinates of the point(s) where the graphs of  $f(x) = \log_{1/2} x$  and  $g(x) = \left(\frac{1}{2}\right)^x$  intersect each other.
2. Let  $L(t) = t^3 - 5t + 8$ . Compute the limit

$$\lim_{h \rightarrow 0} \frac{L(2+h) - L(2)}{2+h-2}$$

Note: This limit, if exists, is what we call the **instantaneous velocity at**  $t = 2$ .