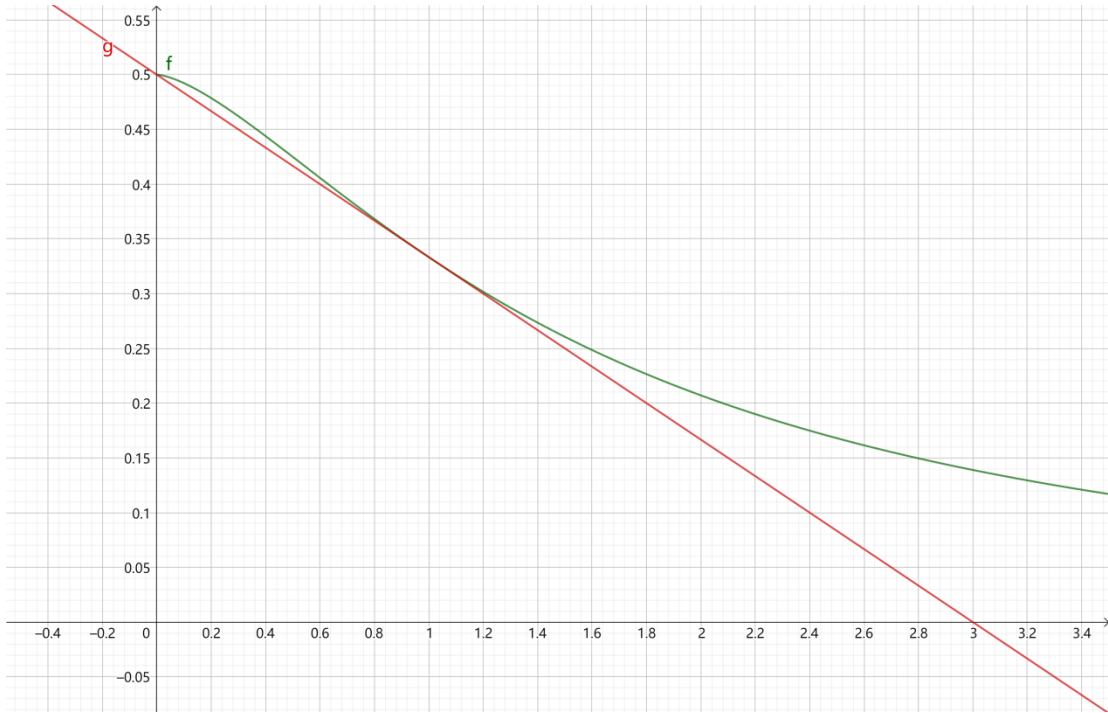
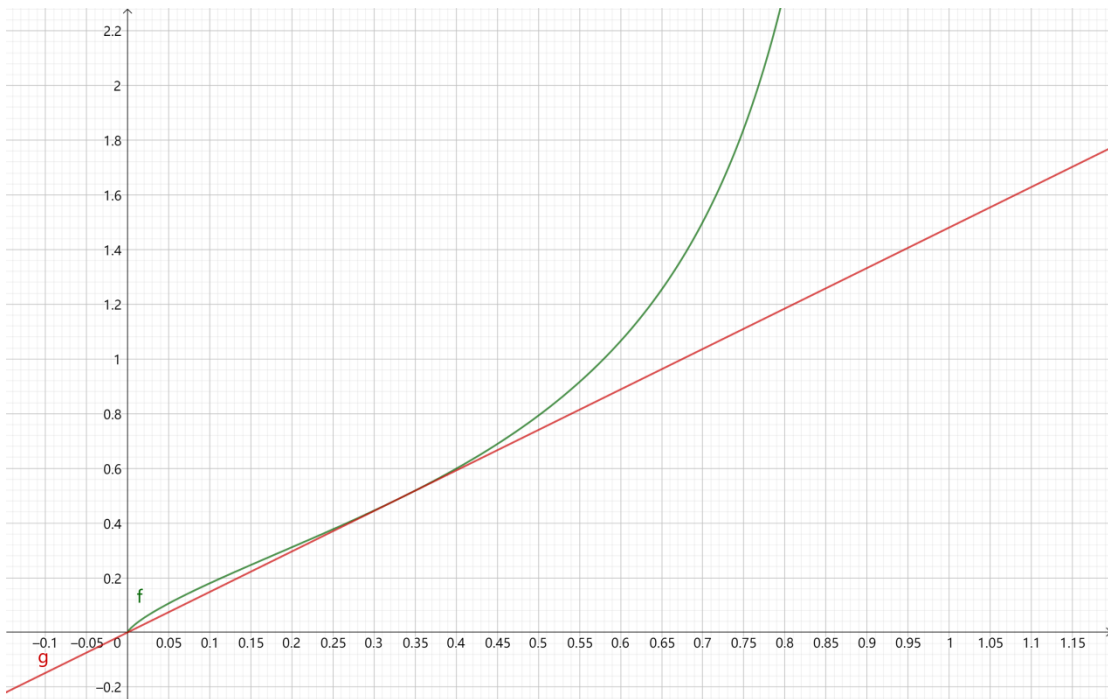


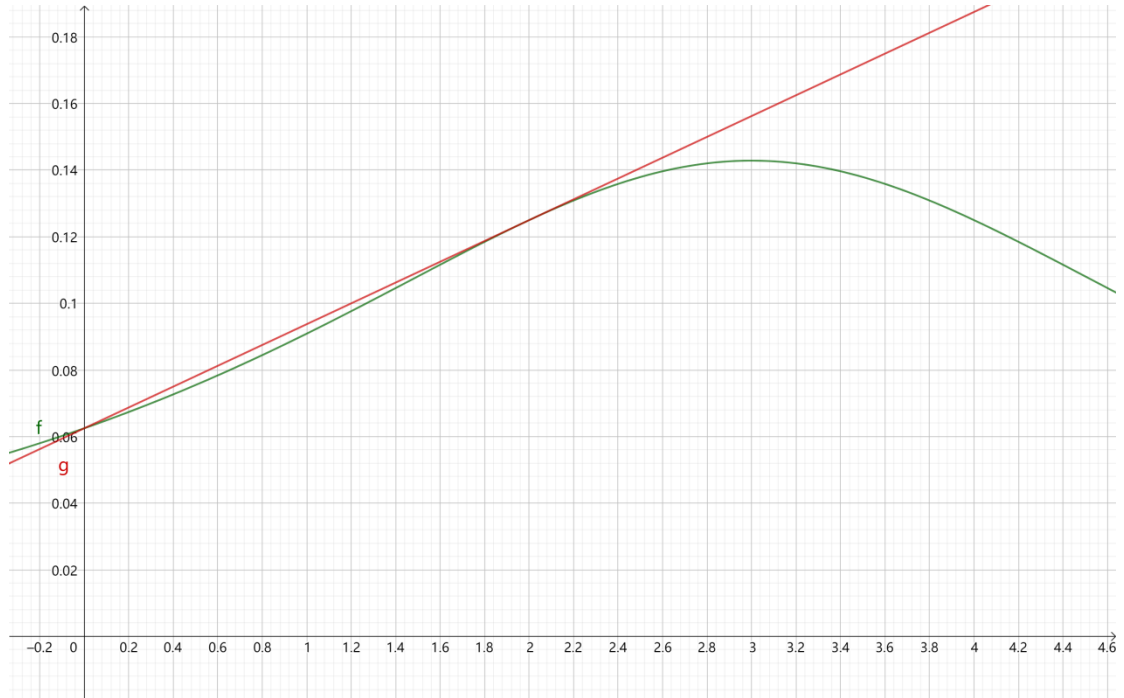
例 1. (1)  $f(x) = \frac{1}{x^{3/2} + 2}$ ,  $g(x) = f'(1)(x-1) + f(1)$ , 注意还有  $f(0) = g(0)$ 。



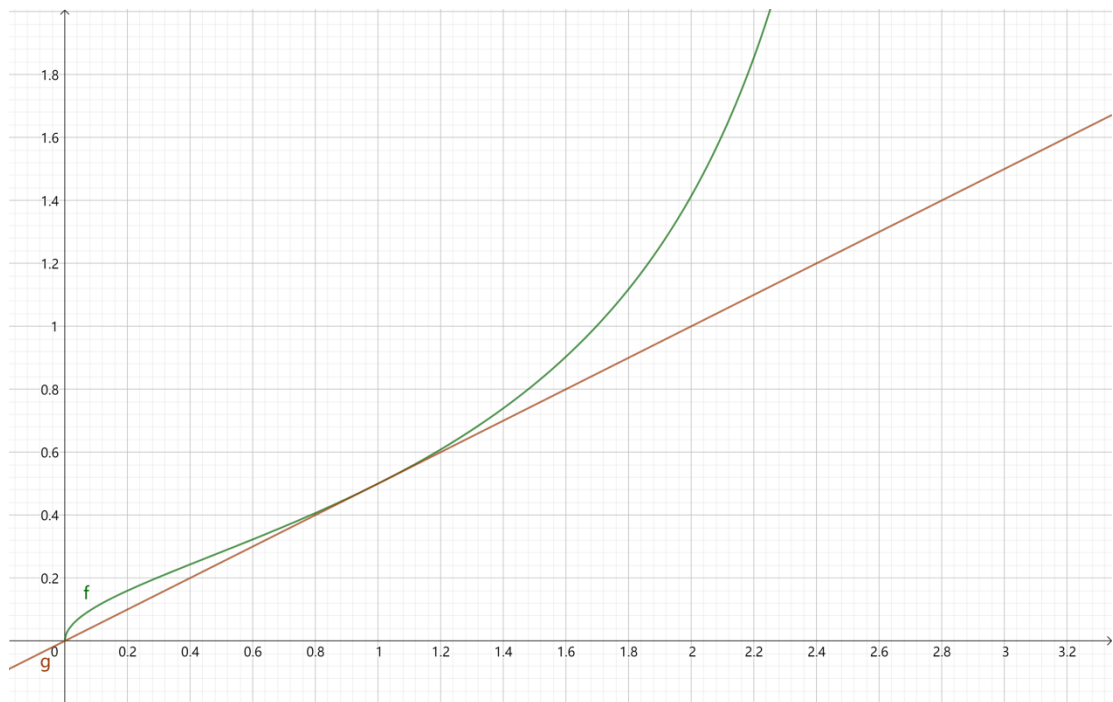
例 1. (2)  $f(x) = \frac{x^{3/4}}{1-x^2}$ ,  $g(x) = f'(\frac{1}{3})(x - \frac{1}{3}) + f(\frac{1}{3})$ , 注意还有  $f(0) = g(0)$ 。



例 2.  $f(x) = \frac{1}{x^2 - 6x + 16}$ ,  $g(x) = f'(2)(x-2) + f(2)$ , 注意还有  $f(0) = g(0)$ 。



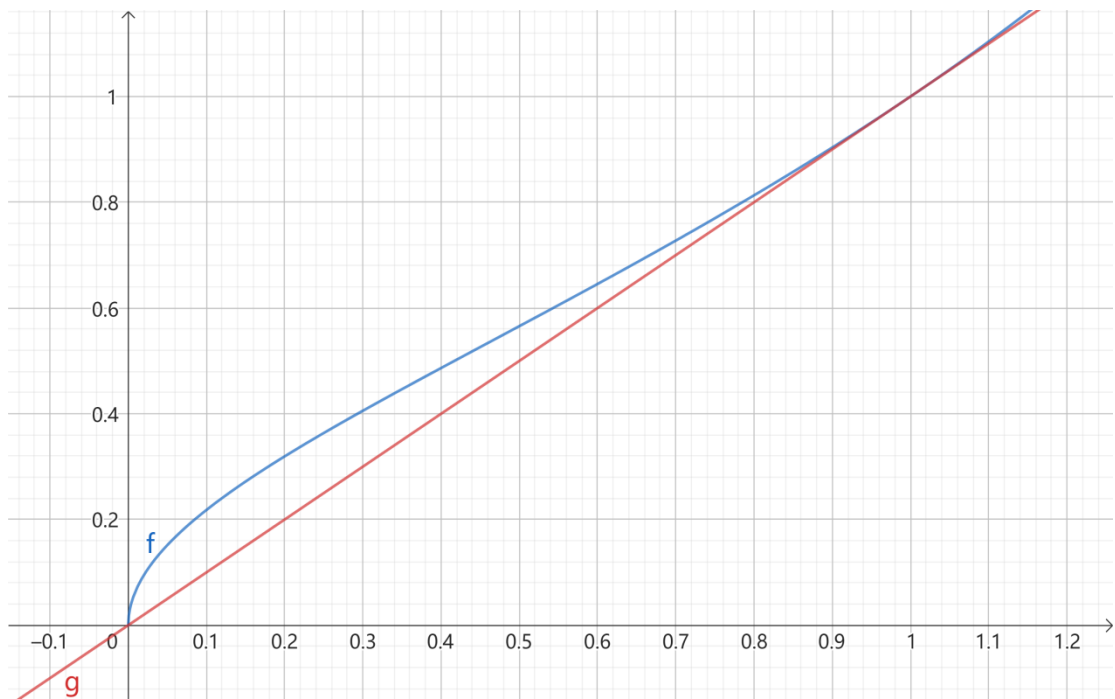
例 3.  $f(x) = \frac{\sqrt{x}}{3-x}$ ,  $g(x) = f'(1)(x-1) + f(1)$ , 注意还有  $f(0) = g(0)$ 。



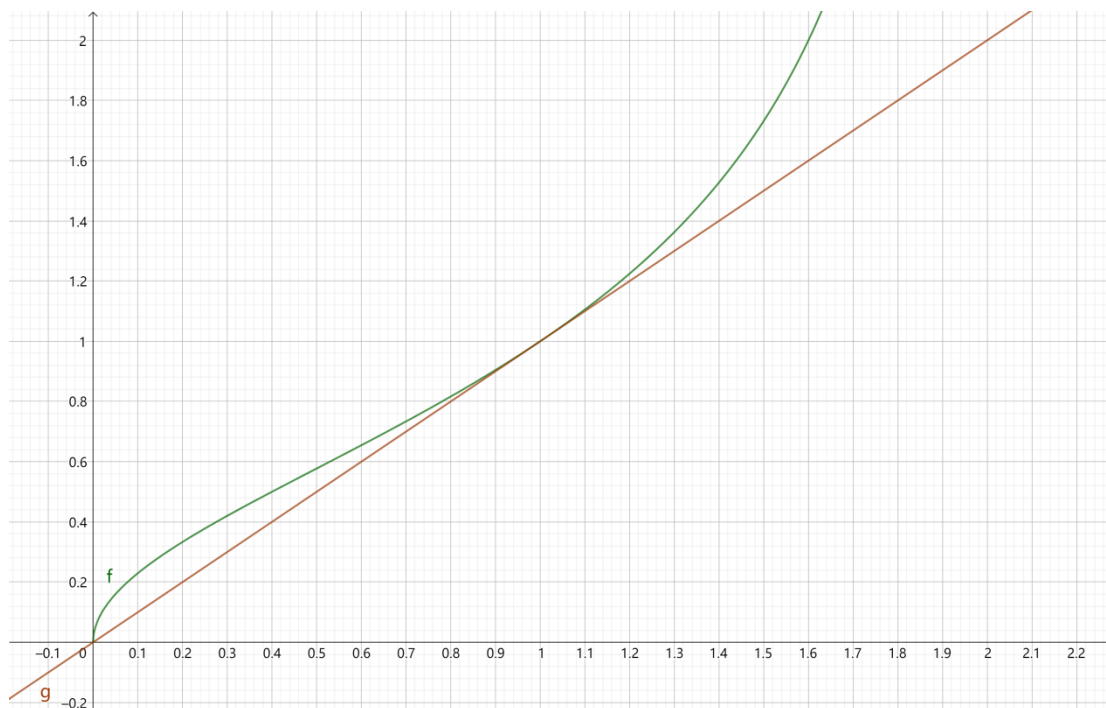
例 4.  $f(x) = \frac{1}{5x^2 - 4x + 11}$ ,  $g(x) = f'(1)(x-1) + f(1)$ , 注意  $f(\frac{9}{5}) = g(\frac{9}{5})$ 。



例 5.  $f(x) = \frac{2\sqrt{x}}{3-x}$ ,  $g(x) = x$ ,  $g(x)$  是  $f(x)$  过  $(0, f(0)), (1, f(1))$  两点的割线。

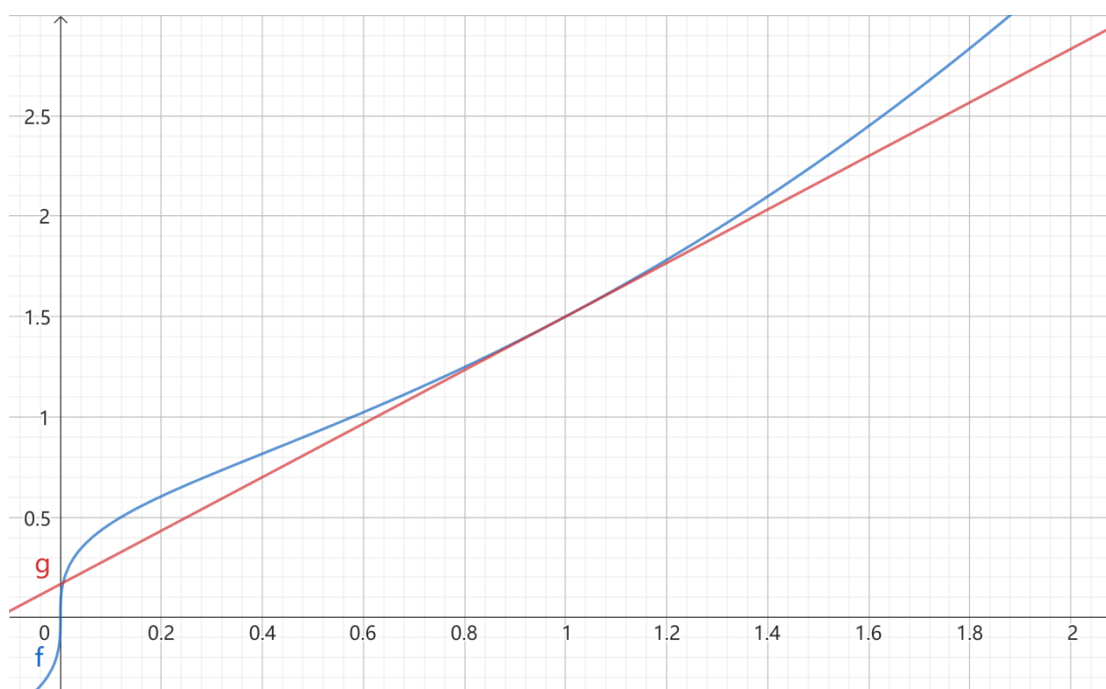


例 6.  $f(x) = \sqrt{\frac{x}{2-x}}$ ,  $g(x) = f'(1)(x-1) + f(1)$ , 注意还有  $f(0) = g(0)$ 。

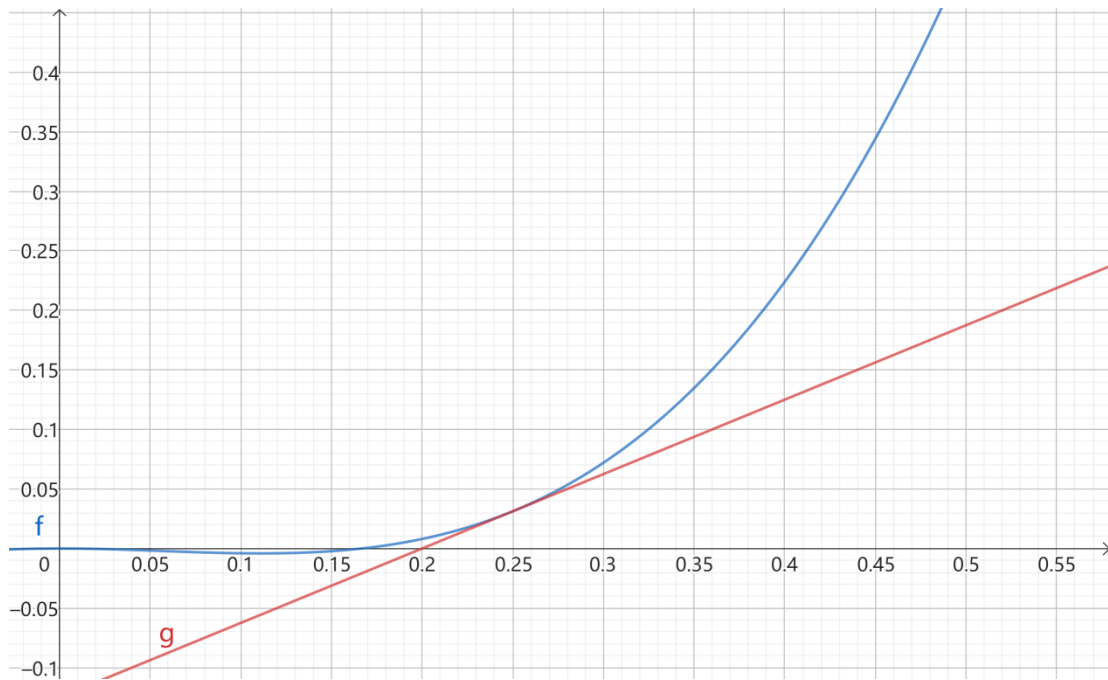


例 8.  $f(x) = \sqrt[3]{x} + \frac{x^2}{2}$ ,  $g(x) = f'(1)(x-1) + f(1)$ , 注意存在  $x_0 \approx 0.0052347 < \frac{1}{64}$  使得

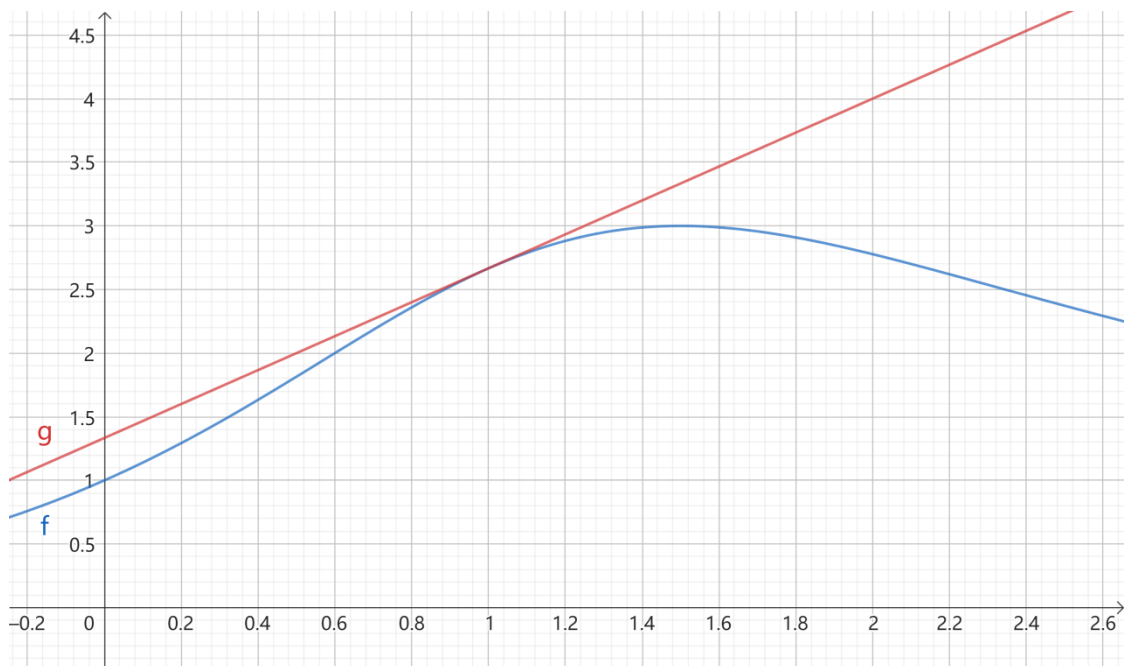
$f(x_0) = g(x_0)$ 。



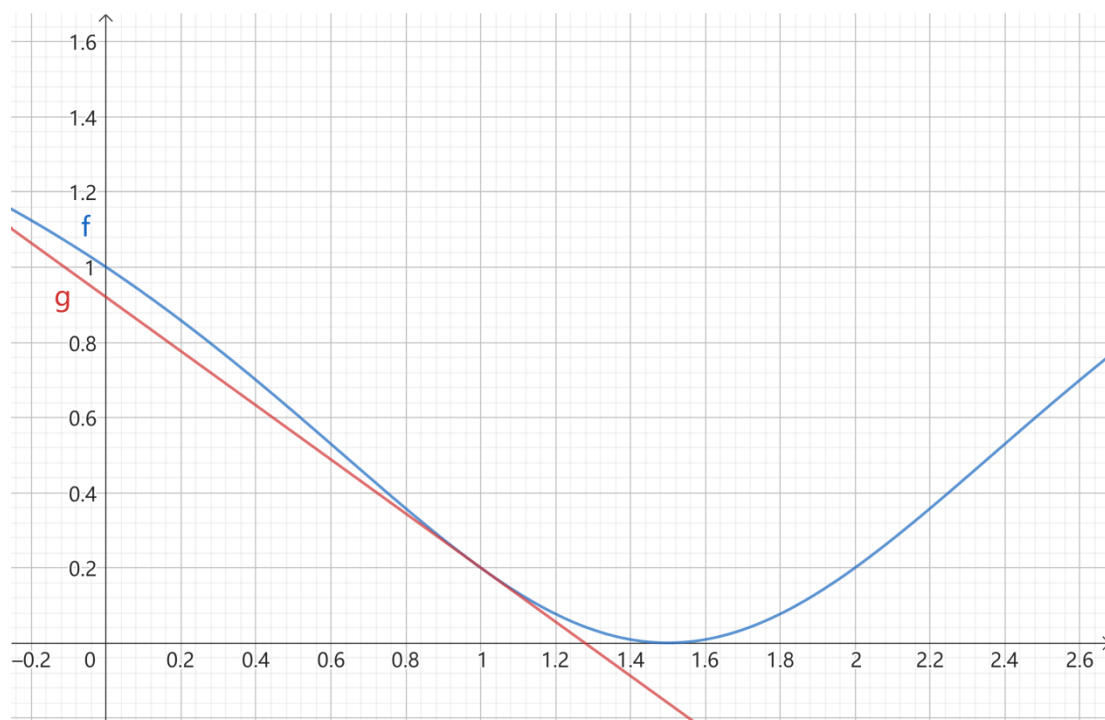
例 9.  $f(x) = 6x^3 - x^2$ ,  $g(x) = f'(\frac{1}{4})(x - \frac{1}{4}) + f(\frac{1}{4})$ , 注意  $\frac{1}{18}$  是  $f(x)$  的拐点,  $f(x)$  在  $[0, \frac{1}{18}]$  上是上凸的。



例 10.  $f(x) = \frac{(3+x)^2}{3x^2 - 6x + 9}$ ,  $g(x) = f(1)(x-1) + f(1)$ 。



例 11.  $f(x) = \frac{(3-2x)^2}{2x^2 - 6x + 9}$ ,  $g(x) = f'(1)(x-1) + f(1)$ 。



例 16.  $f(x) = \frac{1}{x^2 + 1}$ ,  $g(x) = f'(\frac{1}{3})(x - \frac{1}{3}) + f(\frac{1}{3})$ ,  $h(x) = 1 - \frac{x}{2}$ ,  $x = \frac{1}{\sqrt{3}}$  是  $f(x)$  的拐点。

