2. $f(x) = x^2$, $[-2, 1]$

$f'(x) = 2x$

$f'(0) = 0$

$f(0) = 0$ min

$f(1) = 1$

$f(-2) = 4$ max

3. $f(x) = 10x(2 - \ln x)$, $[1, e^2]$

$f'(x) = 10(2 - \ln x) - 10x \cdot \frac{1}{x}$

$= 10(1 - \ln x)$

$f'(e) = 0$

$f(e) = 10e$ max

$f(1) = 20$

$f(e^2) = 0$ min

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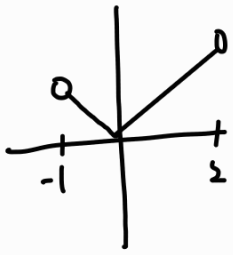
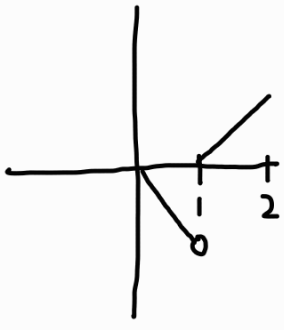
5. $f(x)=|x|$, $-1<x<2$



min 0

max 不存在

6. $g(x)=\begin{cases} -x, & 0\le x<1 \\ x-1, & 1\le x\le 2 \end{cases}$



min 不存在

max 1

7. $f(x)=\frac{2}{3}x-5$, $-2\le x\le 3$

$f'(x)=\frac{2}{3}$

$f(-2)=\frac{-4}{3}-5=-\frac{19}{3}$ min

$f(3)=\frac{6}{3}-5=-\frac{9}{3}$ max

8. $f(x) = x^2 - 1$, $-1 \le x \le 2$

$f'(x) = 2x$

$f'(0) = 0$

$f(0) = -1$ min

$f(-1) = 0$

$f(2) = 3$ max

9. $f(x) = 4 - x^3$, $-2 \le x \le 1$

$f'(x) = -3x^2$

$f'(0) = 0$

$f(0) = 4$

$f(-2) = 12$ max

$f(1) = 3$ min

10. $h(x) = \sqrt[3]{x}$, $-1 \le x \le 8$

$h'(x) = \frac{1}{3} x^{-\frac{2}{3}}$

$h'(0) = 0$

$h(0) = 0$

$h(-1) = -1$ min

$h(8) = 2$ max