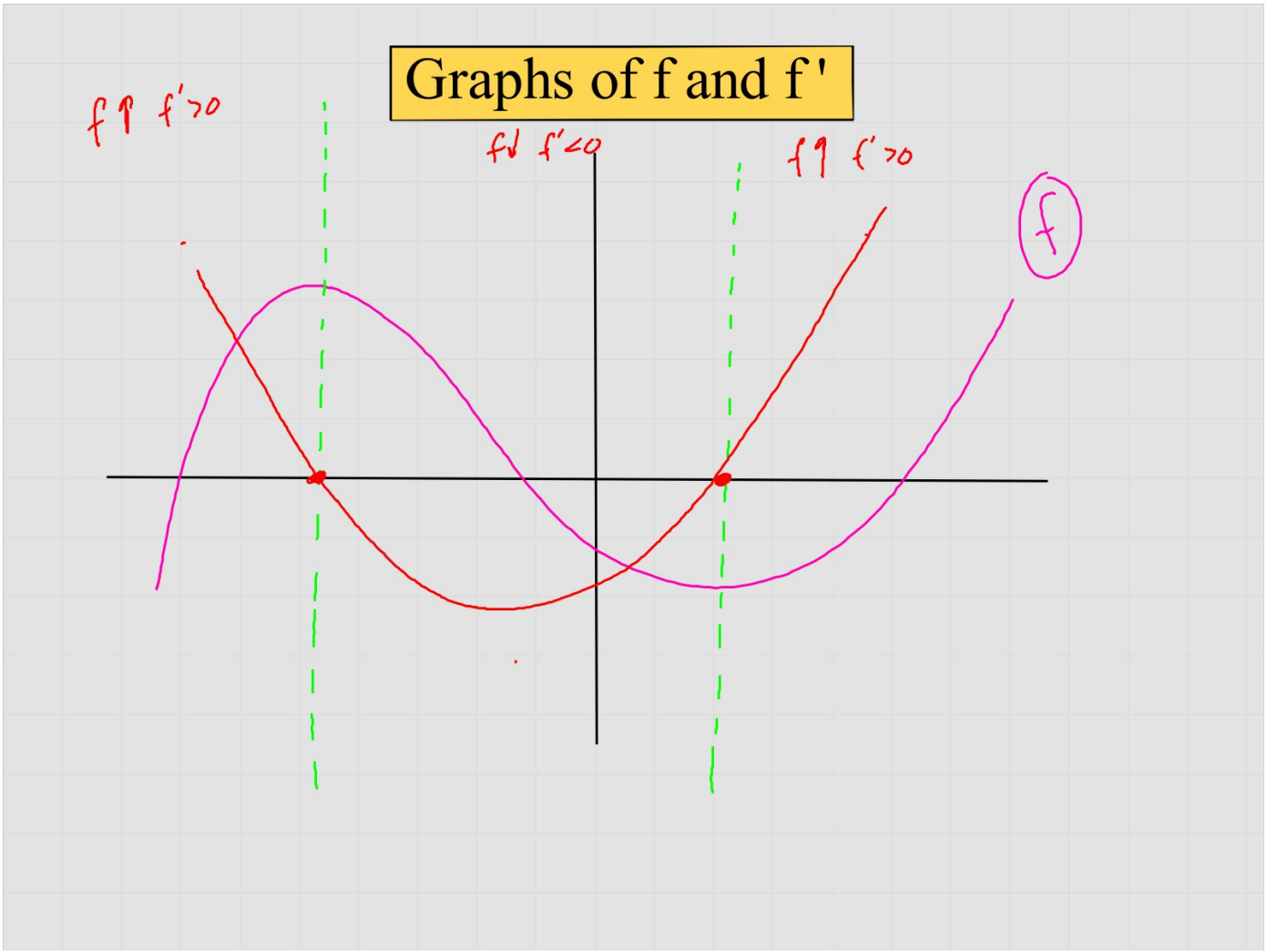
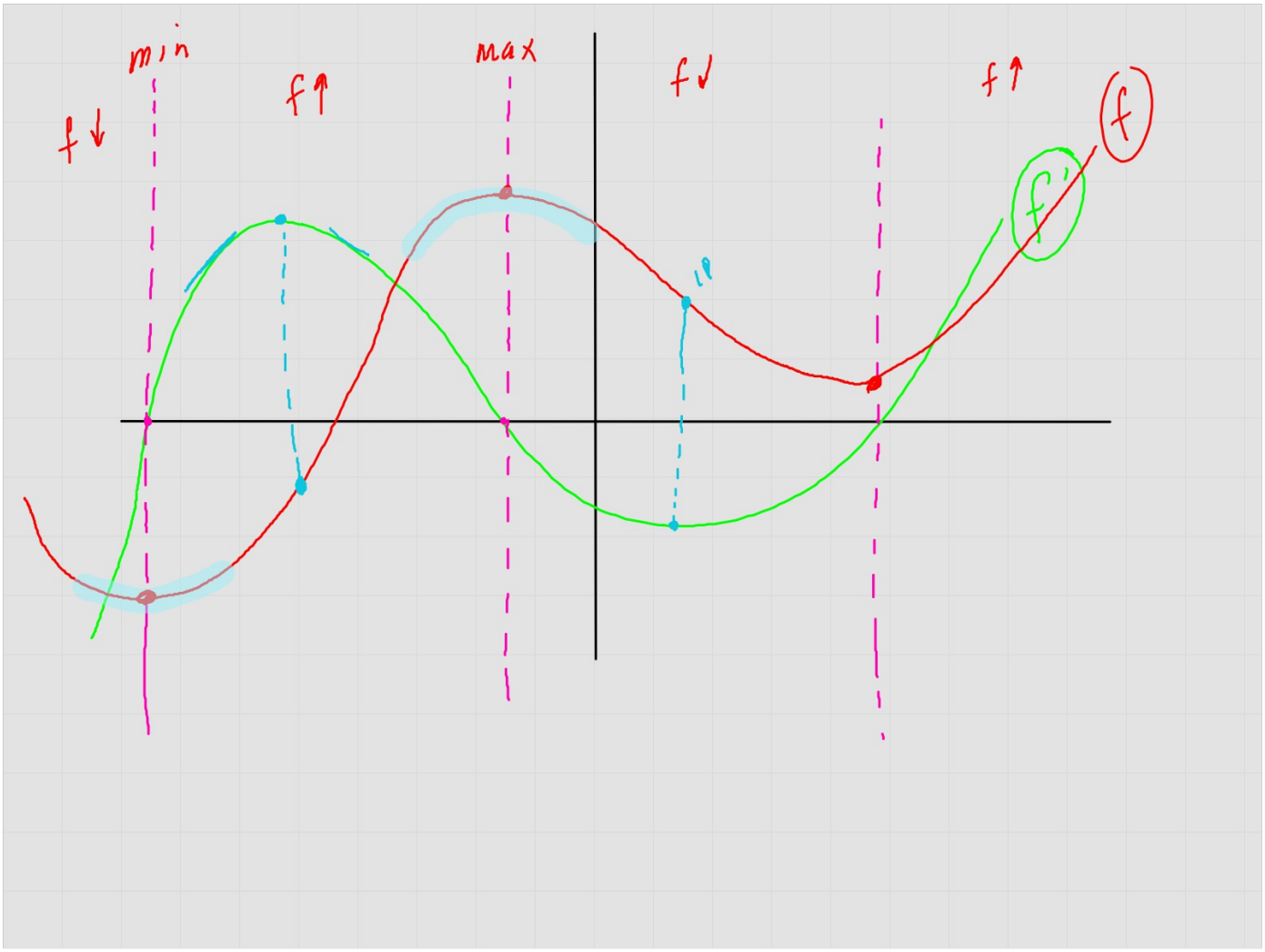
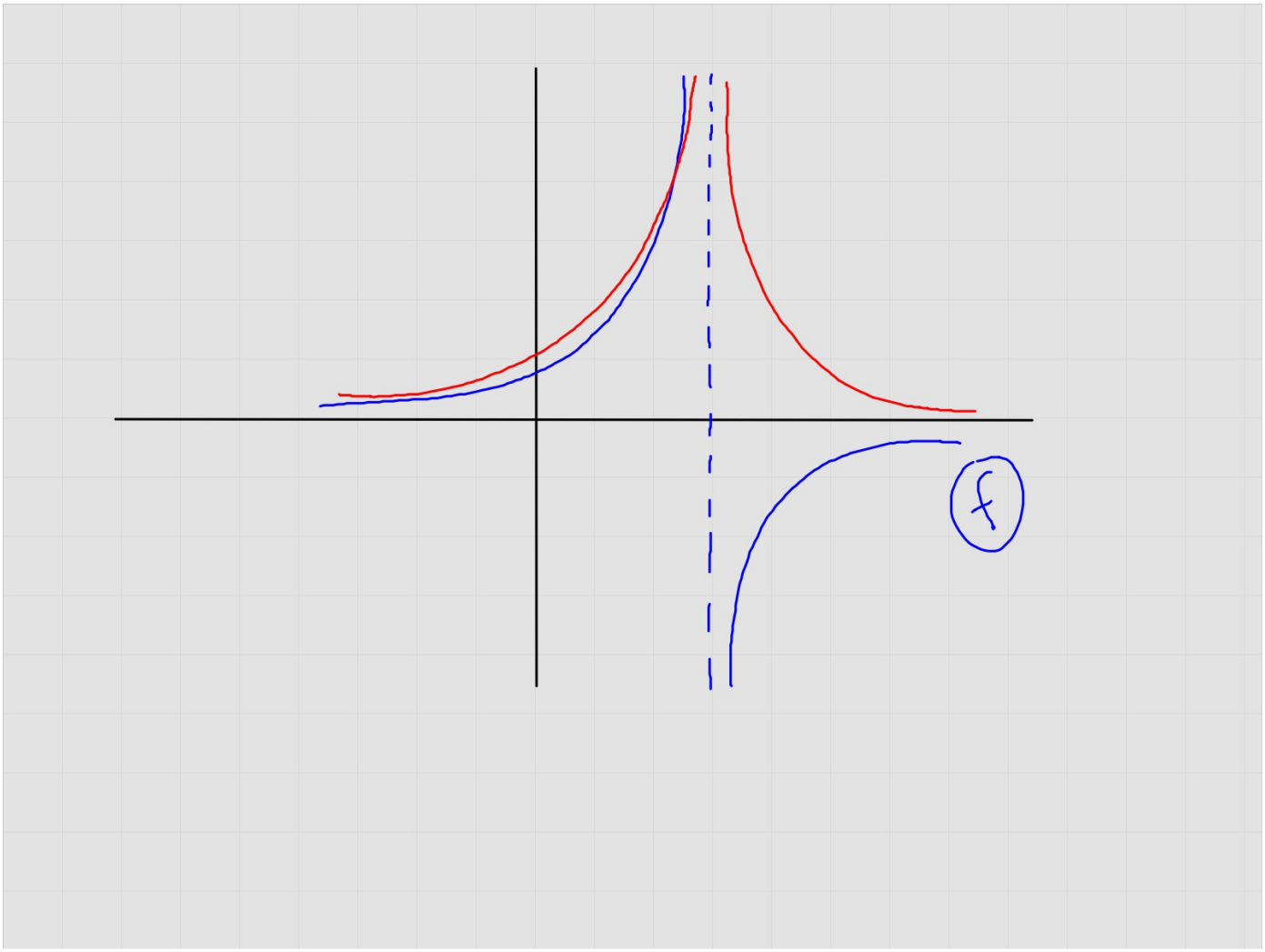
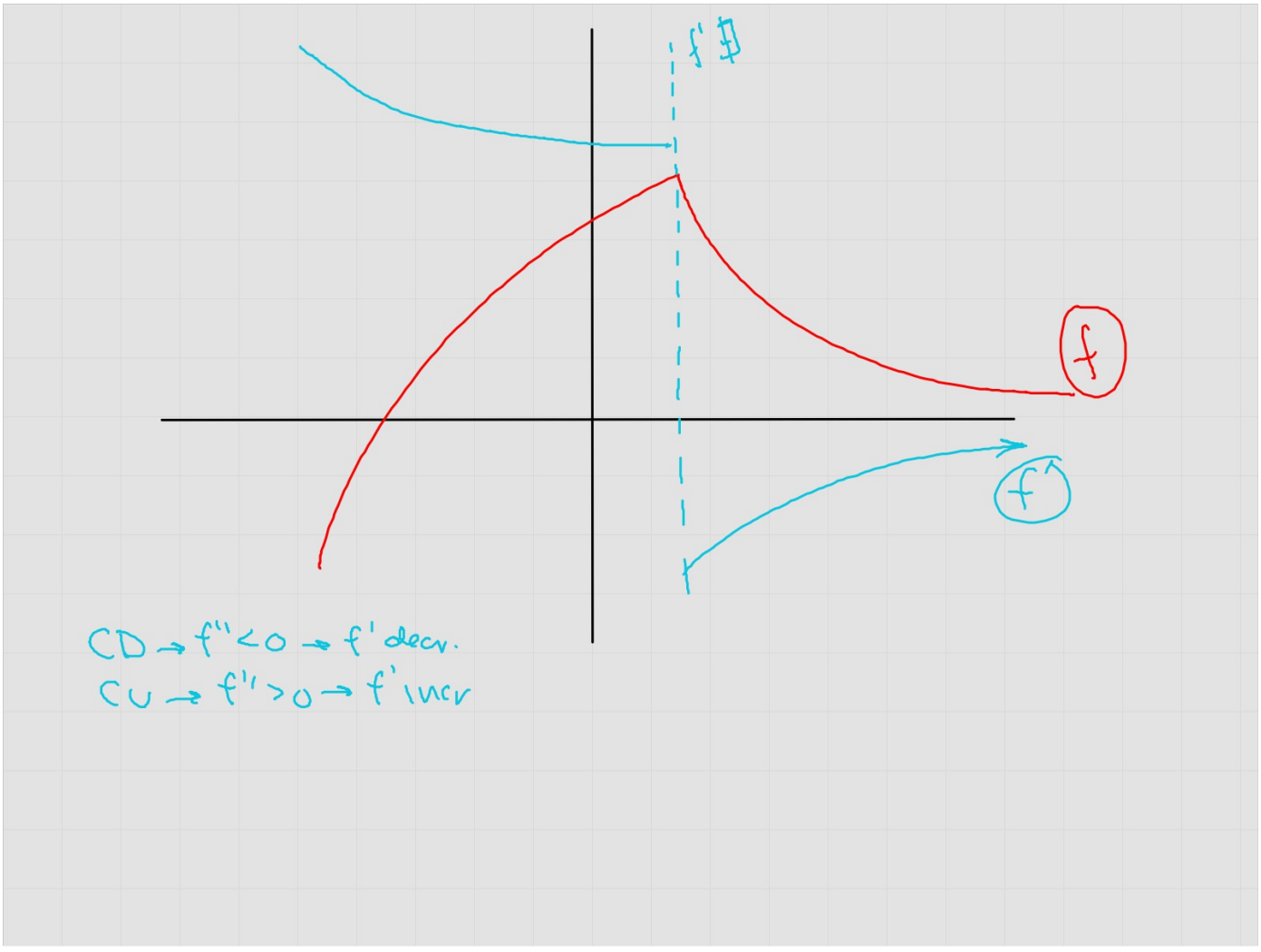
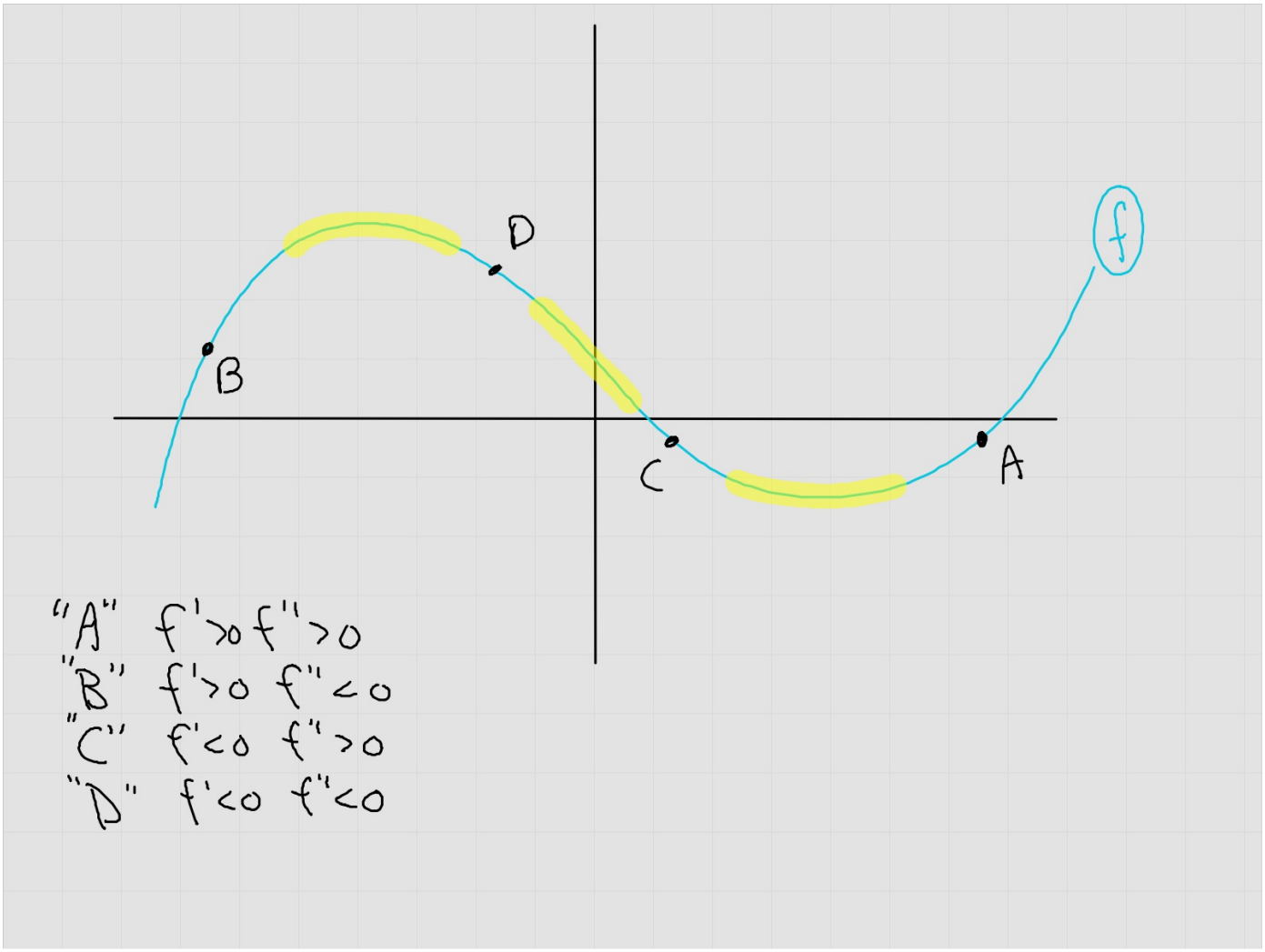

Graphs of f and f '
f ↑ f'>0
f↓ f'<0
f ↑ f'>0
f


min
max
f ↓
f ↑
f ↓
f ↑
f
f'


f


f'
f
f'
CD → f'' < 0 → f' decr.
CU → f'' > 0 → f' incr

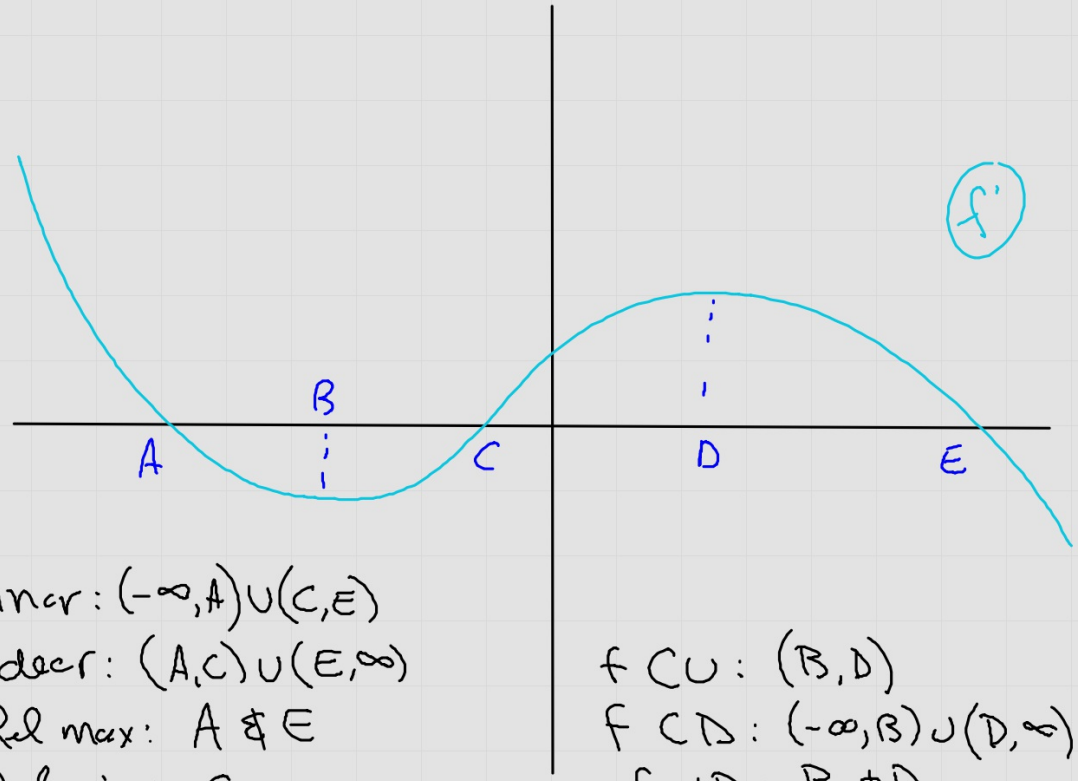


"A" $f' > 0$ $f'' > 0$

"B" $f' > 0$ $f'' < 0$

"C" $f' < 0$ $f'' > 0$

"D" $f' < 0$ $f'' < 0$



f incr: $(-\infty, A) \cup (C, E)$

f decr: $(A, C) \cup (E, \infty)$

Rel max: A & E

Rel min: C

f CU: (B, D)

f CD: $(-\infty, B) \cup (D, \infty)$

f IP: B & D.