

② Find the intervals on which F is increasing/decreasing.

$$\boxed{F'(x)} > 0 \Rightarrow F \text{ is increasing}$$

$$\boxed{F'(x)} < 0 \Rightarrow F \text{ is decreasing}$$

Since $F(x) = \int_0^x f(t) dt$, we have by FTC, part I

$$F'(x) = f(x)$$

So the graph is nothing but the graph of $F'(x)$

So, from the graph, $F'(x) > 0$ on $(0, 1) \cup (3, 7)$

So, F is increasing on $(0, 1) \cup (3, 7)$

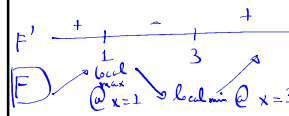
From the graph $F'(x) < 0$ on $(1, 3)$

So, F is decreasing on $(1, 3)$.

③ where does F have a max/min

Local max/min occurs at places where $F' = 0$

From the graph, $F'(1) = F'(3) = 0$



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