#37 REPRESENTATIONS USING THE FUNDAMENTAL THEOREM 5.3

Assume $F'(x) = f(x)$ and the Fundamental Theorem of Calculus applies in each case. For each problem complete the statement and give an illustration on each graph.

1. On the graph of $f(x)$, $f(a)$ represents ______________________________________________________________________

   On the graph of $F(x)$, $f(a)$ represents ______________________________________________________________________

2. On the graph of $f(x), \int_{a}^{b} f(x) \, dx$ represents ______________________________________________________________________

   On the graph of $F(x), \int_{a}^{b} f(x) \, dx$ represents ______________________________________________________________________

3. On the graph of $f(x), \frac{\int_{a}^{b} f(x) \, dx}{b - a}$ represents ______________________________________________________________________

   On the graph of $F(x), \frac{\int_{a}^{b} f(x) \, dx}{b - a}$ represents ______________________________________________________________________
4. On the graph of $F(x)$, $F'(a)$ represents ____________________________

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5. On the graph of $F(x)$, $F(b) - F(a)$ represents ____________________________

On the graph of $f(x)$, $F(b) - F(a)$ represents ____________________________

6. On the graph of $F(x)$, $\frac{F(b) - F(a)}{b-a}$ represents ____________________________

On the graph of $f(x)$, $\frac{F(b) - F(a)}{b-a}$ represents ____________________________