- If f(x) is increasing on the interval from a to b, then $\text{LEFT}(n) \leq \int_a^b f(x) dx \leq \text{RIGHT}(n).$
- If f(x) is decreasing on the interval from a to b, then $\operatorname{RIGHT}(n) \leq \int_{a}^{b} f(x) dx \leq \operatorname{LEFT}(n).$

- If f(x) is concave up on the interval from a to b then MID $(n) \leq \int_{a}^{b} f(x) dx \leq \text{TRAP}(n).$
- If f(x) is concave down on [a, b] then $\operatorname{TRAP}(n) \leq \int_a^b f(x) dx \leq \operatorname{MID}(n).$