

4.6 Trapezoid Approximation Method

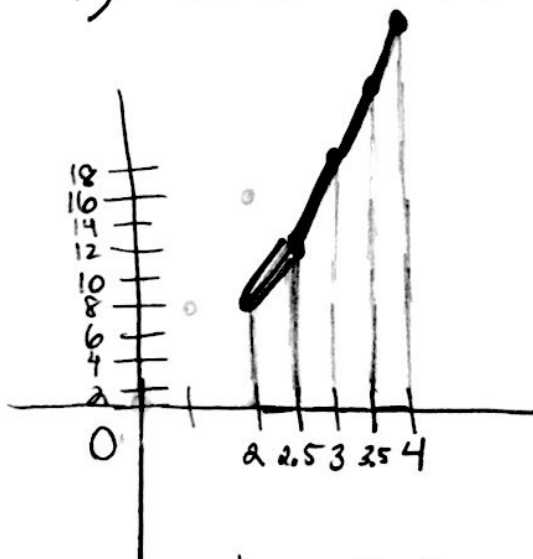
Power Point

- If f is increasing,
 $LRAM \leq \text{Actual} \leq RRAM$
- If f is decreasing,
 $RRAM \leq \text{Actual} \leq LRAM$

And

- If f is $cc \downarrow$, then
 $T(n) \leq \text{Actual} \leq M(n)$
- If f is $cc \uparrow$, then
 $M(n) \leq \text{Actual} \leq T(n)$

1) Use TAM with $n=4$ $\int_2^4 2x^2 dx$



$$A = \frac{1}{2} h (b_1 + b_2)$$

$$\frac{1}{2} \cdot \frac{1}{2} [8 + 2(12.5) + 2(18) + 2(24.5) + 32]$$

$$= \boxed{37.5}$$

over

$$h = \frac{4-2}{4} = \frac{1}{2}$$