

September 11

SWBAT:

Explore properties of
definite integrals



Riemann
Sum

$$\sum_{k=1}^n f(x_k) \Delta x$$

exact
area

$$\lim_{n \rightarrow \infty} \sum_{k=1}^n f(x_k) \Delta x$$

very, very, very, ...
small width

Definite
Integral

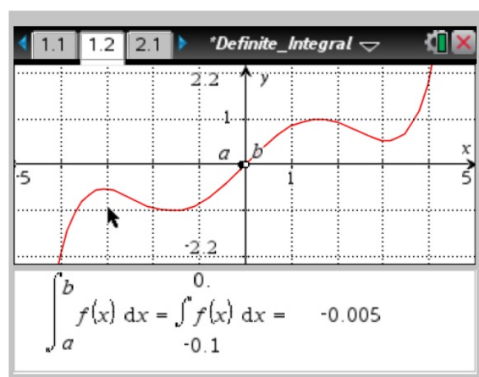
$$\int_a^b f(x) dx$$

bounds function variable

"Integral of $f(x)$ from $x=a$ to $x=b$ "

→ gives you the exact
area between the
curve & the x-axis

3. For the function f pictured on page 1.2, under what conditions of a and b in $[-5, 5]$ will the definite integral $\int_a^b f(x) dx$ be positive? Negative? Zero? Explain your thinking.



Positive
 $b > |a|$

Negative
 $b < |a|$

Zero
 $b = |a|$