

September 24

SWBAT:

Evaluate definite integrals using the  
Fundamental Theorem of Calculus

2. Without changing the value of  $a$ , how could you use the values of the accumulation function in question 1 to find  $\int_0^3 f(t) dt$ ? Explain your thinking.

$$\int_0^3 f(t) dt = \int_{-3}^3 f(t) dt - \int_{-3}^0 f(t) dt = -.6 - .6 = -1.2$$

3. Without changing the value of  $a$ , use the accumulation function and your thinking from question 2 to find the following. For each, be sure to explain your thinking.

a.  $\int_1^4 f(t) dt = \frac{\int_{-3}^4 f(t) dt - \int_{-3}^1 f(t) dt}{\int_{-3}^2 f(t) dt - \int_{-3}^{-2} f(t) dt}$

b.  $\int_{-2}^2 f(t) dt = \frac{\int_{-3}^2 f(t) dt - \int_{-3}^{-2} f(t) dt}{\int_{-3}^{-1} f(t) dt - \int_{-3}^0 f(t) dt}$

c.  $\int_0^{-1} f(t) dt = \frac{\int_{-3}^{-1} f(t) dt - \int_{-3}^0 f(t) dt}{\int_{-3}^0 f(t) dt - \int_{-3}^{-1} f(t) dt}$