Graphing Accumulation Functions
Class 6: Monday February 3

Warm-up If you know an object is travelling at a constant SPEED of 12 miles per hour, what is the DISTANCE TRAVELLED by the object in

- 1.5 hours?

- 40 minutes?

- T hours?

DISTANCE TRAVELLED is the accumulation of _____ with _____.

When the ACCUMULATED QUANTITY is **CONSTANT**, accumulation is calculated by _____.

When the ACCUMULATED QUANTITY **VARIES**, accumulation is calculated by _____.

Exercise
1. We want to see the graphical relationship between $f(x)$ and $F(x)$, where $F(x)$ is the accumulation function of $f(x)$ with x. We can write $F(x)$ as

$$F(\mathcal{X}) = \int_a^{\mathcal{X}} f(x)dx$$

2. Consider the graph of $f(x)$ below, sketch the graph of $F(x)$ for two cases: when accumulation starts at $a = 0$ and when it starts at $a = 2$
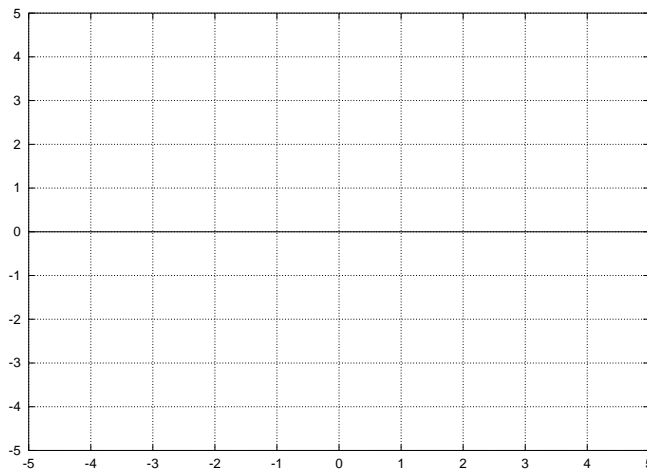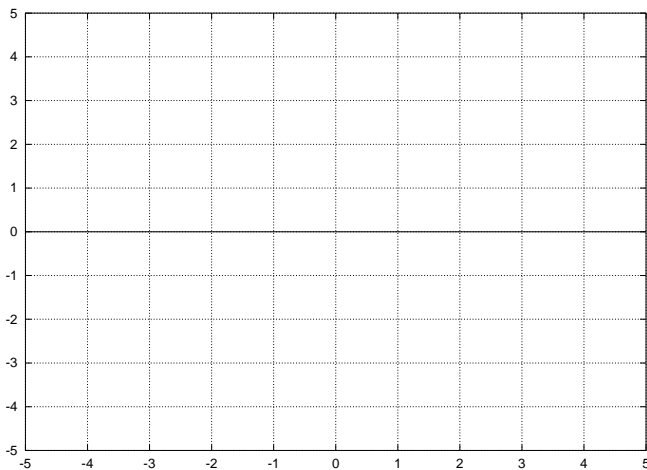
3. Do you see any relationships between the graph of $f(x)$ and $F(x)$?
How is the graph different depending on where the accumulation begins?