Indefinite Integrals and the Net Change Theorem

Define an indefinite integral.

Create a table of indefinite integrals (page 398)

Fully state the Net Change Theorem

What is the difference between displacement and distance traveled? (This is a COMMONLY missed concept)

Find the general indefinite integral of the following. Verify by differentiating.

1. $\int x^2 - \cos(x)dx$

2. $\int \frac{\sin(2x)}{\sin(x)}dx$

3. If $w'(t)$ is the rate of growth of a child in pounds per year, what does $\int_5^{10} w'(t)dt$ represent?

4. If $f(x)$ is the slope of a trail at a distance of x miles from the start of the trail, what does $\int_3^5 f(x)dx$

5. Create your own net change problem or don't come to class :)