Chapter 7.4 Worksheet

Name _____

	Objective	Rate your understanding of the objective
Objective 1	Understand how to set up and solve an integral to finding the length of a curve.	1 2 3 4 5

Warmup

Write, but do not evaluate, indefinite integrals that describe the length of these curves. It is not necessary to simplify beyond the square in the arc length formula (By yourself)

1. $y = x$
2. $y = \tan(x)$
3. $y = x^2 + 4x + 4$

Problems

These problems involve arc length. You may reference Examples 213 and 214 in your example packet. (In groups)

1. Find the length of the curve $y = \sqrt{2x - 2}$ contained within $\frac{3}{2} \leq x \leq 9$.

2. Find the length of the curve $y = \frac{x^2}{2} + 1$ contained within $1 \leq x \leq 4$.

3. Write about why the last two answers were the same.

4. Find the length of the curve $y = (2x + 3)^{\frac{3}{2}}$ contained in $0 \leq x \leq 5$.

Self Quiz
(By yourself)

1. A projectile is fired from the y-axis into the first quadrant. It follows the curve $y = -5x^2 + 10x + 15$. How far does it travel before hitting the x-axis?

Reflection

	Objectives	Rate your understanding of the objective
Objective 1	Understand how to set up and solve an integral to finding the length of a curve.	1 2 3 4 5

Study Skills:

- Remember to read through examples from the book BEFORE your professor goes over the section in class.

- After class read through the examples in your notes from that day and try to do the problems yourself (without looking at your notes).

- After class read through the examples from the book in the section you JUST covered and make sure you understand them.