Reading Assignment # 3

Math 9 - Prof. Orellana

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Read Sections 8.1 and 8.2 and answer the following questions.

1. What are the most important integrals you should know so far according to your book? List all 16.
2. What is the objective of Chapter 8? What will you be learning? Why do you need to know this?
3. According to your book every differentiation rule has a corresponding integration rule? What differentiation rule corresponds to the substitution rule?
4. What is the objective of Section 8.1? To what rule of differentiation does integration by parts correspond?
5. State the product rule and the conditions necessary for it to be true.
6. Derive the rule of integration by parts from the product rule.
7. In page 490, there is a NOTE, explain the point of this note. Make a conclusion on what your objective should be when choosing the "u" and "dv" in integration by parts.
8. In Example 2, there is no product in the integrand so why are we still able to use integration by parts?
9. Read Example 4, explain what "trick" it is illustrating.
10. What is the objective of Section 8.2?
11. What trigonometric identity allowed us to solve Example 1 in page 796? According to the discussion after this example, what will this identity allow us to do?
12. Read Example 2, what strategy is illustrated? Generalize the problem.

13. What trigonometric identity can you use to find the integral of even powers of sine and cosine?

14. What is the strategy when solving integrals of the form $\int sin^m x cos^n \, dx$?

15. What is the strategy when solving integrals of the form $\int tan^m x sec^n \, dx$?

16. Read the information in the box in page 501 and explain what it says. Be concise.