Math 262 Reading Guide

Section 4.6

NAME

Read Section 4.6 and answer the following questions. *Hand in this worksheet at the next class.*

1. In Section 4.6.1, how do the functions u_1 and u_2 relate to v_1 and v_2?

2. In the **Transformation Theorem**:

    (a) What does the *Jacobian* refer to?

    (b) What is the formula for $g(y_1, y_2)$?

3. In Example 4.39:

    (a) What is the region of positive density for (X_1, X_2)? (In other words, what are the possible values of (X_1, X_2)?

    (b) What is the region of positive density for (Y_1, Y_2)?

    (c) How is the Transformation Theorem used to obtain the joint density function of Y_1 and Y_2?