

Quiz 9: May 26, 2016

Left Neighbor: \_\_\_\_\_

Right Neighbor: \_\_\_\_\_

Name: \_\_\_\_\_

Student ID: \_\_\_\_\_

Section TA: \_\_\_\_\_

This is a closed book quiz

1. **(3 points)** What is the coefficient of  $x^{11}y^{15}$  in  $(2x - y)^{26}$ ?

2. **(7 points)** Prove the Binomial Theorem using Induction. That is, prove that

$$(x + y)^n = \sum_{k=0}^n \binom{n}{k} x^k y^{n-k}.$$

Induction Hypothesis (1 point):

Base Case(s) (2 points):

Inductive Step (4 points):