**Math 142**

**Test #2 Review Problems**

**Spring 2013**

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

Multiple Choice: Choose the answer that best fits as the solution to the question.

1. If you were to be asked to write to proof using an indirect proof (as the method) for the statement below, what would be trying to prove?

 **Given Statement: “If *2n* is rational, then *n* is rational.”**

A) If *n* is irrational, then *2n* is irrational.

B) If *2n* is irrational, then *n* is irrational.

C) If *n* is rational, then *2n* is irrational.

D) If *2n* is rational, then *2n* is rational.

E) None of these

2. Compute: 23 mod 6

 A) 6

 B) None of these

C) 4

D) 3

E) 5

**For questions 3 and 4, us the following information:**

, ,,

 3. 

 A) {8}

B) *U*

C) 

D) {1, 2, 3, 4, 5, 6, 7, 9, 10}

 E) None of these

 4. 

A) {2, 6}

B) {2}

 C) {6, 7}

D) {3, 4}

E) None of these

5. If a set has 1 element, how many subsets exist for the given set?

1. 1
2. 2
3. 3
4. 4
5. None of these

6. Given *N* is the set of natural numbers. U = {*N}*; A = {x : x and x > 100}, find A’.

1. {0, 1, 2, 3, 4…….100}
2. {0, 1, 2, 3, 4 …….99}
3. {0, 1, 2, 3, 4 ……101}
4. {0, 1, 2, 3, 4……..98}
5. {101, 102, 103, 104…..}

7. What shaded region is given below?



A)  B)  C)  D)  E) 

**Answer questions 8-9 given the following information:**

A survey of 75 students was taken and the following information was obtained:

 30 took a Math course their first semester, freshman year.

 45 took an English course their first semester, freshman year

 22 students took both a math course and English course first semester of their freshman year.

8. How many students did not take math during their first semester, freshman year?

1. 23
2. 30
3. 22
4. 55
5. None of these

9. How many students took neither of the courses during their first semester, freshman year?

 A) 23

 B) 30

 C) 22

 D) 55

 E) None of these