

## Quiz 4 (8 POINTS TOTAL)

MATH 017, SPRING 2016

NAME:

SECTION:

**Problem 1** How many subsets does  $\{1, 5, 7, 9, 2\}$  have?

- (a) 25
- (b) 16
- (c) 10
- (d) 32

**Problem 2** Let  $U = \{x \mid x \text{ is a textbook}\}$ ,  $H = \{x \mid x \text{ is a history textbook}\}$ , and  $J = \{x \mid x \text{ is a textbook written by Dr. Jones}\}$ . (Note that  $U$  is the universe of discourse.) Describe, in words, the set  $H \cap J'$ .

- (a) All history textbooks not written by Dr. Jones.
- (b) All textbooks written by Dr. Jones which are not about history.
- (c) All textbooks which are about history or written by Dr. Jones.
- (d) All textbooks which are about history or not written by Dr. Jones.

**Problem 3** Suppose that out of a group of 52 students, 25 of them work on-campus and 30 of them work off-campus. All 52 students have a job. Some have both on-campus and off-campus jobs.

- (i) Draw a Venn diagram corresponding to the given information. Use the following identifications:  $A$  is the set of students who work on-campus, and  $B$  the set of students who work off-campus. Shade the region corresponding to the set of students who work on-campus but not off-campus.

- (ii) How many of them work both on-campus and off-campus?

- (a) 15
- (b) 20
- (c) 5
- (d) 3

**Feedback:**

1. Any comments (on lectures, homework, quizzes, course, me, etc.)?