CIS 108 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Directions: Write in pencil. Do your work on separate paper if you need the room; show as much work as possible or explain how you arrive at your answer.

**Country and Western Songs**

Country-Western songs seem to emphasize three basic themes: love, prison and trucks. A survey of the local country-western radio station produced the following data.

12 songs were about a truck driver who was in love while in prison

13 were about a prisoner in love

28 were about a person in love

18 were about a truck driver in love

3 were about a truck driver in prison who was not in love

2 were about a prisoner who was not in love and did not drive a truck

8 were about a person who was not in prison, not in love and did not drive a truck

16 were about truck drivers who were not in prison.

a. Draw an appropriate Venn diagram.

Answer the following questions about the survey. How many songs were ...

a. surveyed?

b. about truck drivers?

c. about prisoners?

d. about truck drivers in prison?

e. about people not in prison?

f. not about love?

**The Chicken Problem**

A chicken farmer surveyed his flock with the following results. The farmer had

9 fat red roosters

2 fat red hens

37 fat chickens

26 fat roosters

7 thin brown hens

18 thin brown roosters

6 thin red roosters

5 thin red hens

a. Draw a Venn diagram with regions for fat, for male (a rooster is a male, a hen is a female) and for red (assume that brown and red are opposites in the chicken world).

Answer the following questions about the flock. How many chickens were ...

b. fat?

c. red?

d. male?

e. fat, but not male?

f. brown, but not fat?

g. red and fat?