Name: _____

stions 1 through 4 refer to the following:

Joe, Don, Kelly, and Barbara went to a Halloween party. They chose to go as the famous duos, Sonny and Cher and Bonnie and Clyde. Joe rented the costumes for Clyde and Cher, but not for his own costume. Kelly went as Sonny. Barbara rode to the party with two of her friends, who were dressed as Sonny and Cher.

1) Based on the information above, whose costumes did Joe rent?

2) Based on the information above, what costume did Don wear?

3) Based on the information above, who went to the party dressed as Bonnie?

4) Based on the information above, who did Barbara ride to the party with?

5) In a junior college of 1100 freshman students, 700 students passed calculus, 500 students passed English composition, and 300 students passed both courses. How many students did *not* pass either calculus or English composition?

6) In a high school of 1300 students, 500 students take art, 650 students take music, and 325 students take both music and art. To the nearest tenth, what percent of the total number of students take neither art nor music?

Questions 7 through 10 refer to the following:

Marie, Betsy, Wayne, and Mike bought gifts for their friend's birthday party. They bought a DVD, a CD, a computer game, and a basketball. Betsy bought the DVD. Wayne wrapped the CD and the basketball, neither of which was the gift he bought. Mike went shopping with the two friends who bought the DVD and CD.

7) Based on the information above, which friends did Mike go shopping with?

8) Based on the information above, who bought the basketball?

9) Based on the information above, what gift did Wayne bring to the party?

10) Based on the information above, for which friends did Wayne wrap up gifts?

11) At a recent graduation ceremony, 15 girls graduated with distinction and 20 boys did not. If there were 33 boys at the ceremony and a total of 40 students did not graduate with distinction, what was the total number of students at the graduation ceremony?

A) 70   B) 75   C) 68   D) 60

12) Solve using logical reasoning:

  - Allen, Betty, and Charlie won first place, second place, and third place in a spelling bee contest.
  - Allen is a friend of the first-place winner.
  - Charlie is on the same golf league as the second-place winner's sister.
  - Betty is an only child.
  - Allen and Charlie don't know each other.

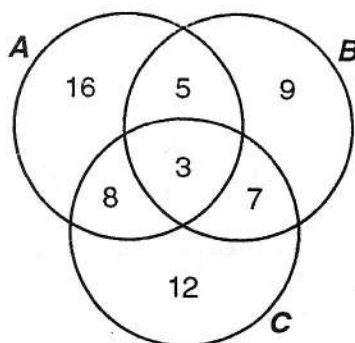Based on the information above, which contestant is Allen's friend?

13) Of 78 people, 35 people exercise by swimming, 14 people exercise by jogging, and 11 people exercise by both swimming and jogging. How many people do *not* exercise by either swimming or jogging?

14) Solve using logical reasoning:

  - Geoffrey, Tammy, and Eileen went on vacation to Georgia, California, and France.
  - Neither Geoffrey nor Eileen have ever been out of the United States.
  - Geoffrey is a neighbor of the person who spent a lot of time on the beach at the Pacific Ocean.

Based on the information above, where did each person go on vacation?

15) The accompanying Venn diagram shows the number of types of fruit produced by fruit growers in Plum County. All the growers in circle *A* produce apples. All the growers in circle *B* produce blueberries. All the growers in circle *C* produce strawberries.

To nearest tenth of a percent, what percentage of growers produce *exactly* two types of fruit?

16) In a survey of 150 college students, 65 students eat breakfast, 52 students eat lunch, and 12 students eat both. How many students surveyed do *not* eat either meal?

A) 40   B) 45   C) 33   D) 53

17) A school district offers AP Calculus and AP English courses to the senior class. A survey of 250 students in the senior class showed: 100 students are enrolled in AP English only, 80 students enrolled in AP Calculus only, and 40 students not enrolled in either course.

Of the 250 students, how many are enrolled in *both* AP Calculus and AP English?

18) In a freshman class of 100 students, 42 students play on a sports team, 34 students participate in the school musical, and 6 students participate in both activities. How many students in the class are *not* involved in either activity?

A) 24   B) 36   C) 30   D) 28

19) Solve using logical reasoning:

   - Wayne, Bill, and Corey commute to work by walking, by bus, and by car.
   - Wayne and Corey leave 15 minutes later than the person who walks.
   - Corey and the person who rides the bus generally arrive at work at approximately the same time.
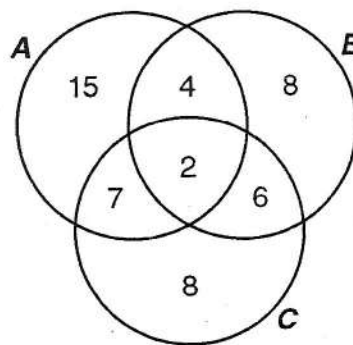
   Based on the information above, how does each person commute to work?

20) Solve using logical reasoning:

   - Aaron, Ben, and Carl won first place, second place, and third place in a 15 km race.
   - Aaron and the person who finished in second-place trained together.
   - Aaron, who had won first place in last year's race, did not do as well in this year's race.
   - Ben and Aaron have never met.

   Who won first place, second place, and third place?

21) The accompanying Venn diagram shows the number of students who play spring sports. All students in circle A play baseball. All in circle B run track. All in circle C play golf.

   What percentage of the students participate in either golf or baseball?
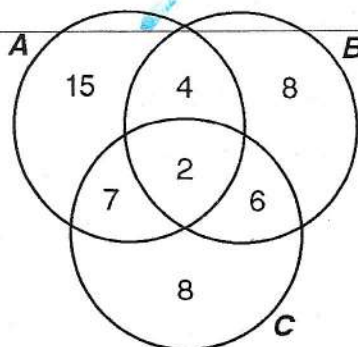
22) Solve using logical reasoning:

   - Cathy, Don, Edgar, and Fred are a chemist, a dentist, an engineer, and a fireman.
   - No one has a job that begins with the same letter as his or her first name.
   - Fred, Don, and the chemist commute together to work.
   - Fred and the engineer are friends.
   - Cathy was rescued by the fireman when her apartment caught fire last year.

   Based on the information above, who performs what job?

23) The accompanying Venn diagram shows the number of students who participate in after school clubs. All the students in circle A belong to the chess club. All the students in circle B are in science club. All the students in circle C belong to the art club.

What percentage of the students participate in *exactly* one club?

24) A used car dealer has 255 cars on his lot. 75 of the cars have tinted glass, 40 of the cars have keyless entry, and 25 of the cars have both tinted glass and keyless entry. How many cars have neither tinted glass nor keyless entry?

25) In a house of 12 rooms, 5 rooms have carpeted floors, 4 rooms have hardwood floors, and 1 room has both carpet and hardwood floors. How many rooms have neither carpet nor hardwood floors?

1) Barbara's and Don's

2) Cher

3) Joe

4) Kelly and Don

5) 200

6) 36.5%

7) Marie and Betsy

8) Mike

9) computer game

10) Marie and Mike

11) C

12) Betty

13) 40

14) Geoffrey went to Georgia, Tammy went to France, and Eileen went to California.

15) 33.3%

16) B

17) 30

18) C

19) Wayne takes the bus, Bill walks, and Corey drives the car

20) Ben won first place, Carl won second place, and Aaron won third place

21) 84%

22) Cathy is the engineer, Don is the fireman, Edgar is the chemist, and Fred is the dentist

23) 62%

24) 165

25) 4