

8) A poll of 100 registered voters designed to find how voters kept up with current events revealed the information below. Draw a Venn diagram and answer the questions in (A) through (D). **(9 pts)**

65 watched the news on television.

39 read the newspaper.

39 listened to radio news.

20 watched television news and read the newspaper.

27 watched television news and listened to radio news.

9 read the newspaper and listened to radio news.

6 watched television news, read the newspaper, and listened to radio news.

(A) How many of the registered voters who were surveyed used a source other than the three mentioned to keep up with current events?

(B) How many of the registered voters who were surveyed read the newspaper, but did not watch television news?

(C) How many of the registered voters who were surveyed used only one of the three sources listed to keep up with current events?

(D) How many of the registered voters who were surveyed used exactly two of the three sources listed to keep up with current events?

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9) When a teacher counted her students in groups of 4, there were 2 students left over. When she counted them in groups of 5, she had 1 student left over. If 15 of her students were girls and she had more girls than boys, how many students did she have? **(5 pts)**

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10) Ten people enter a tennis tournament in which each person must play every other person exactly once. Determine the total number of games that will be played. **(5 points)**

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11) Determine if each statement is true or false. **(2 pts each)**

A) If set A is a subset of set B, then set A is never equal to set B.

B) A sequence may not be both arithmetic and geometric.

C) If A is a subset of B, then A is not a proper subset of B.

D) If sets A and B are disjoint, then  $A \cap B = \{\emptyset\}$ .

E) If two sets are equal, then they are also equivalent.