Example 1:

There are 25 dogs at the dog show.

12 dogs are black

8 dogs have a short tail

15 dogs have long hair

1 dog is black with a short tail and long hair

3 dogs are black with short tails but do not have long hair

2 dogs have short tails and long hair but are not black

If all the dogs in the kennel have at least one of the mentioned characteristics, algebraically determine how many dogs are black with long hair but do not have short tails?
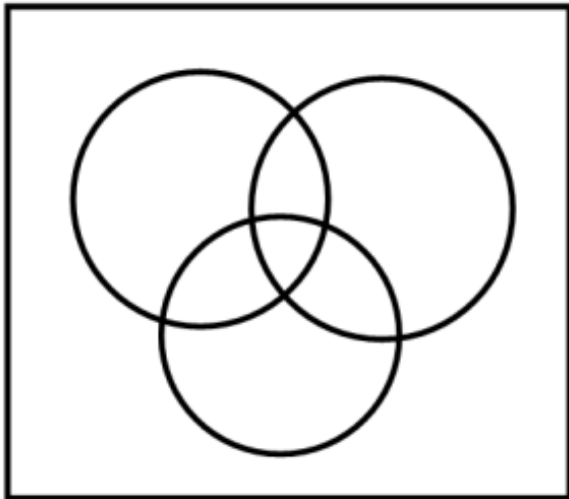
Example 2:

28 children have a dog, a cat, or a bird

13 children have a dog

13 children have a cat

13 children have a bird

4 children have only a dog and a cat

3 children have only a dog and a bird

2 children have only a cat and a bird
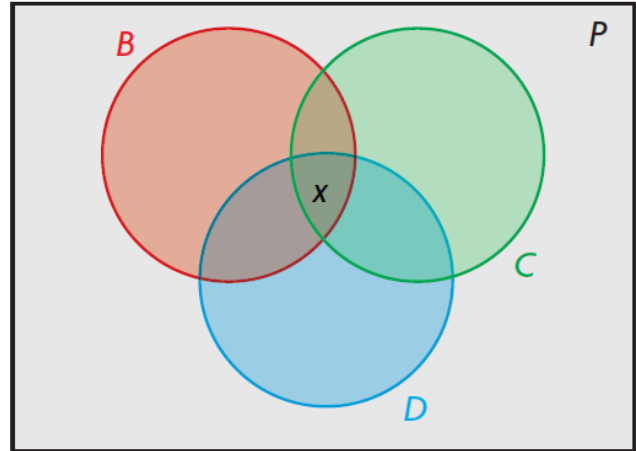

No child has two of each type of pet.

a) How many children have a cat, a dog, and a bird?

b) How many children have only one pet?

Example 3:

    200 students wrote exams in Math, Biology and English. The Venn Diagram below represents the percentage of those who wrote the exams.   Algebraically determine the percentage of students who wrote all three exams, and determine the number of students that this represents

Biology   Math

$(2x-7)\%$ 1%   4%

$(6x)\%$

1% $(4x+27)\%$

2%

English
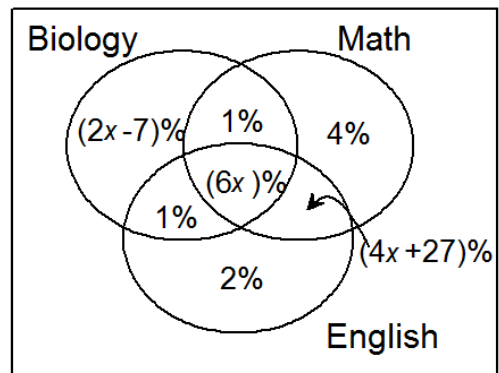
Practice Questions:

p. 51 - 54, #2, 4, 6, 9, 14

Review:

p. 58, #1, 3 - 7