

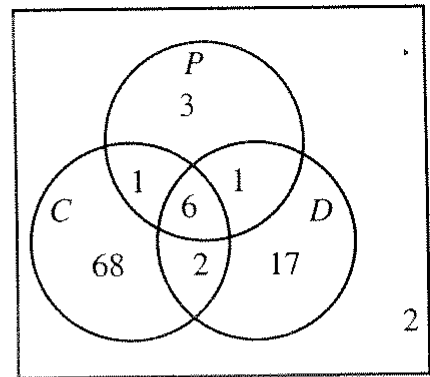
Day 4 - Venn Diagrams

Class Ex. #1



The Venn diagram displays the results of a survey of 100 students in a high school regarding technology in their personal lives.

P represents the number of students with a cellular phone
 C represents the number of students with a computer
 D represents the number of students with a CD player

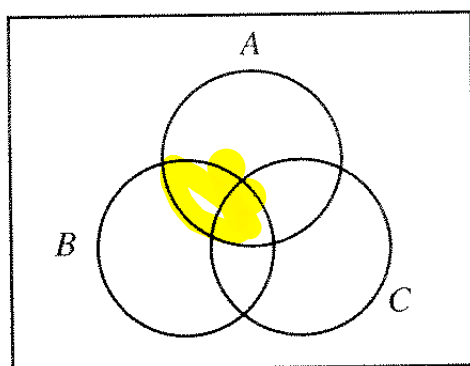


- a) How many students own only a cellular phone? **3**
- b) How many students own a cellular phone? **11**
- c) How many students own a computer and a personal CD player? **8**
- d) How many students own a computer or a personal CD player? **95**
- e) How many students own all three items? **6**
- f) What does the number 2 outside the three circles represent?
- g) What does the number 2 inside the three circles represent?

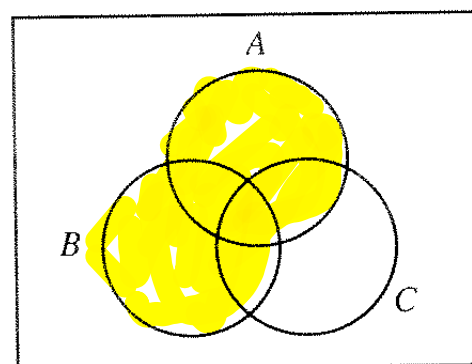


In each of the following Venn diagrams, shade the region indicated.

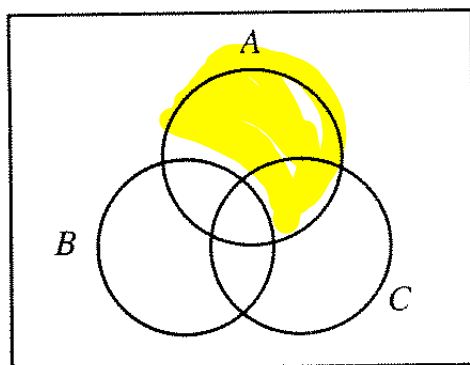
a) A and B



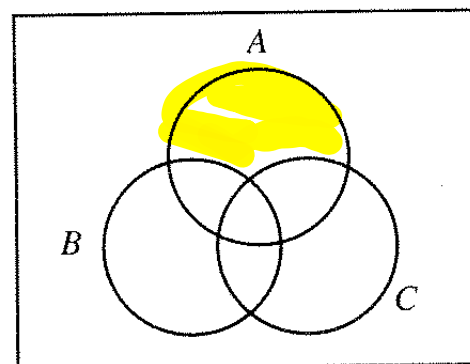
b) A or B



c) A and not B



d) A and not B and not C

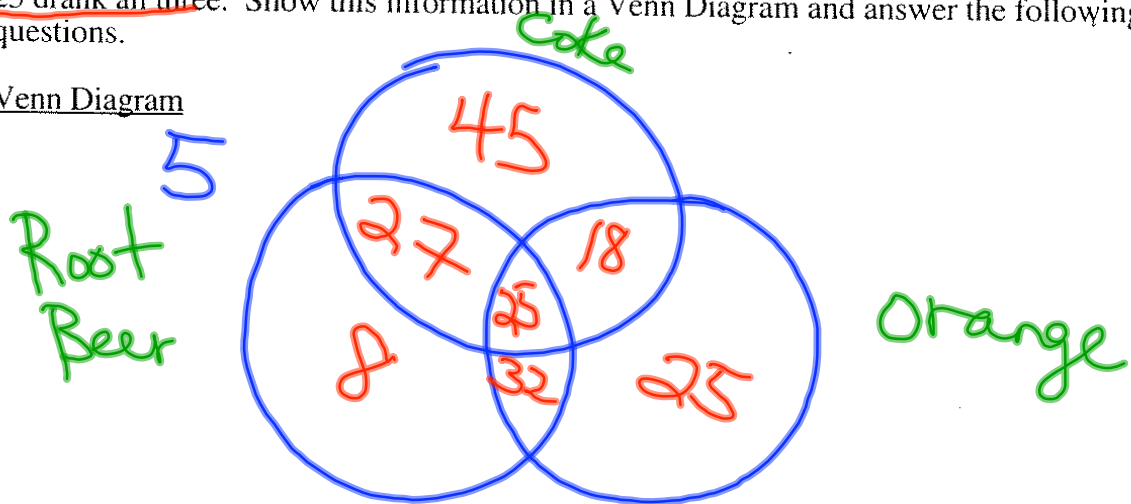


Class Ex. #3



In Big Hill High School, 185 grade eleven students were surveyed to determine which soft drinks they liked to drink. 115 drank coke, 92 drank root beer, 100 drank orange, 43 drank coke and orange, 52 drank root beer and coke, 57 drank root beer and orange, and 25 drank all three. Show this information in a Venn Diagram and answer the following questions.

Venn Diagram



How many students:

a) drank only coke? 45 b) drank coke or root beer? 155

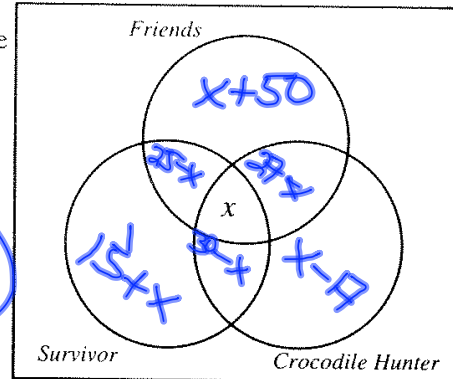
c) did not like to drink any of the three drinks? $185 - 180$
 5



150 grade 150 students were asked which of the following 3 television programs they watch regularly - "Friends", "Survivor", and "Crocodile Hunter". 102 students watched "Friends", 70 watched "Survivor" and 40 watched "Crocodile Hunter". 25 students watched both "Friends" and "Survivor", 27 watched "Friends" and "Crocodile Hunter", and 30 watched "Survivor" and "Crocodile Hunter".

Let x = the number of students who watch all three programs.

Complete each section of the Venn diagram in terms of x starting from the inside out and hence form an equation in x which can be solved to give the number of students who watched all three programs.



Crocodile Hunter

$$40 - (30 - x) - x - (27 - x)$$

$$(x - 17)$$

Survivor

$$70 - (25 - x) - x - (30 - x)$$

$$15 + x$$

Friends

$$102 - (25 - x) - x - (27 - x)$$

$$(x + 50)$$

Find x : $(x - 17) + (15 + x) + (50 + x) + (25 - x)$
 $+ x + (27 - x) + (30 - x) = 150$

$$x + 130 = 150$$

$$x = 20$$

Assignment: Handout