

6.2

Quick Notes

1) Assume A and B are finite sets....

$$c(A) = \text{The number of objects in the set A, } c(A \cup B) = c(A) + c(B) - c(A \cap B)$$

If sets are mutually exclusive (no common objects), then $c(A \cup B) = c(A) + c(B)$

(BOARD EXAMPLES)

Ex A box contains 30 shirts. 12 are red. 14 are size small. 5 are red and size small.

1) How many are red or small?

2) How many are neither red nor small?

3) How many are not red or not small?

4) How many are red, but not small?

5) How many are small, but not red?

6) How many are small or not red?

$$c(R) = 16 \quad c(S) = 25 \quad c(T) = 18 \quad c(R \cap S) = 12 \quad c(R \cap T) = 6$$

$$c(S \cap T) = 9 \quad c(R \cap S \cap T) = 5 \quad c(U) = 43 \quad \text{Find the following.}$$

$$1) c(R \cup T) \quad 2) c(\overline{R \cup S \cup T}) \quad 3) c(S \cup \overline{T}) \quad 4) c(S \cap \overline{T})$$

Ex. Number of cars were sold by a Honda dealer in December 2008

90 had heated seats, 10 had GPS, 75 had satellite radio, 5 had all three of these extras,

20 had none of the three extras, 10 had GPS and satellite radio, 60 had GPS only, 30 had Satellite radio only.

How many cars had :

- satellite radio and heated seats?

- GPS and heated seats?

- neither GPS nor heated seats?

- GPS or heated seats but not both?

- GPS and did not have heated seats?

- GPS or did not have satellite radio?
- How many cars were sold?

Ex. Grade Distribution Chart for Exam X

	A	B	C	D	E
Male	3	4	2	7	2
Female	5	1	3	1	3

How many students:

1) are male and got a B? 2) are male or got a B? 3) are female and didn't get a C?

4) are female or didn't get a C? 5) Got an A and a B? 6) Got an A or a B?