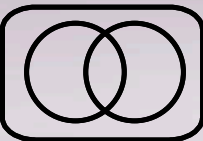
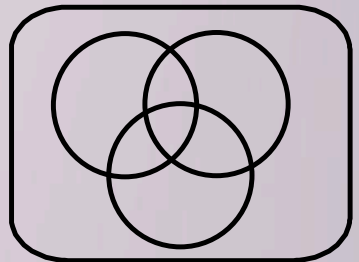


\approx $\{ \}$ $\sqrt{\quad}$  ∞ Σ π

$\{U, n, \emptyset\}$

Math 1030 #1b



Sets and Venn Diagrams

Categorical Propositions

Propositions make claims about sets.

Vocabulary

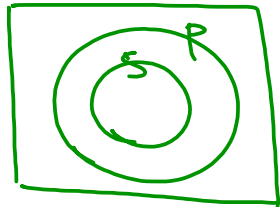
Let S = subject set and P = predicate set.

one set appears as subject of sentence
the other set is the predicate of the sentence

Four Standard Categorical Propositions

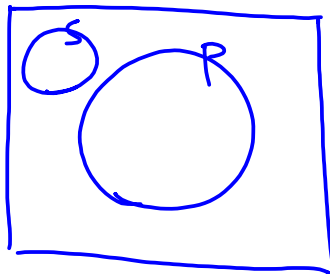
Examples

All S are P



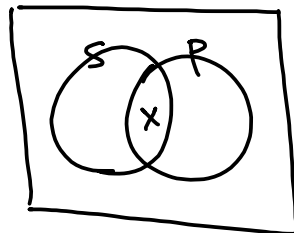
All whole numbers are integers.
S P

No S are P



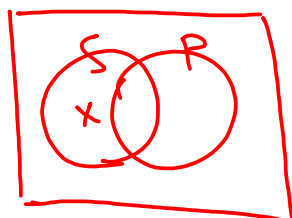
No odd numbers are divisible by 2.
S P

Some S are P



Some mathematicians are women.
S P

Some S are not P



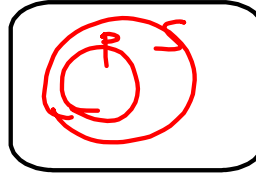
Some retired people do not work at Walmart.
S P

EXAMPLE 1:

Draw a Venn Diagram
State the subject and predicate sets

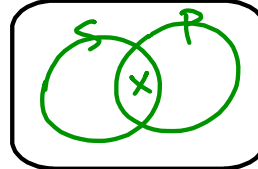
a) Every poodle is a dog.

$S = \text{dogs}$
 $P = \text{poodles}$



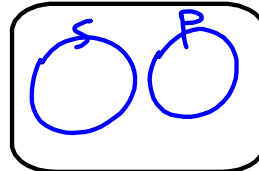
b) Some movie stars are redheads.

$S = \text{movie stars}$
 $P = \text{redheads}$



c) Monkeys don't gamble.

$S = \text{monkeys}$
 $P = \text{gamblers}$



d) Some people don't like chocolate.

$S = \text{people}$
 $P = \text{people who like chocolate}$

