Section 1.3: Symbolic Logic

What is symbolic logic?

Compound Statement Connectors/Modifiers

The Negation

The Conjunction

The Disjunction

The Conditional/Implication

The Biconditional

Examples: Write a sentence given each simple statement using symbolic logic.

Let P = She is a math major. Let Q = She wants to be a teacher.

1. $P \wedge \sim Q$
2. $Q \rightarrow \sim P$
3. $\sim P \vee \sim Q$

Examples: Write each compound statement in symbolic logic.

1. Today is Friday and I am not going to class.

2. If it does not snow, then classes will be held.

3. If you are not late, then we will not wait for you.

Examples: Let m = This person is a male. a = This person is over age 20. c = This person likes math.

Write a compound statement for each .

1. $\sim m \vee \sim c$

2. $a \wedge (c \vee m)$

3. $\sim (a \vee c)$

Write a symbolic logic equivalent for each sentence.

1. The is person is neither over age 20 nor likes math.

2. The person is female, likes math, and is over age 20.

3. This person is either male or over age 20, but not both.