## Chapter 2 Test Topics

2.1

- Conditional- IF/THEN statement
- Has two parts: the hypothesis and the conclusion
- Hypothesis follows the IF
- Conclusion follows the THEN
- The hypothesis and the conclusion DO NOT include IF and THEN
- Truth Value- any if then statement can have a truth value
- The truth value can be true or false depending on if the statement is true or false
- True- simply just state true
- False-provide a counterexample that explains why the statement is false.
- Converse- when the hypothesis and conclusion are switched.
2.2
- Biconditional can ONLY be written if the conditional and the converse are both true.
- In order to write the biconditional you can use either the conditional or the converse.
- You take out the words IF and THEN and replace the THEN with If and only if or (IFF)


## 5.4

- Negation has the opposite truth value.
- Inverse- Negate both the hypothesis and conclusion
- Contrapostive-Switch the hypothesis and conclusion and negate both (negation of the converse)


## 2.4

Properties of Equality

| Addition Property of Equality | If $a=b$ then $a+c=b+c$ |
| :--- | :--- |
| Subtraction Property of Equality | If $a=b$ then $a-c=b-c$ |
| Multiplication Property of Equality | If $a=b$ then $a c=b c$ |
| Division Property of Equality | If $a=b$ then $\frac{a}{c}=\frac{b}{c}$ |$|$| Reflexive Property of Equality | $a=a$ |
| :--- | :--- |
| Symmetric Property of Equality | If $a=b$ then $b=a=b$ and $b=c$ then $a=c$ |
| Transitive Property of Equality | If $a=b$, then $b$ can replace a in any <br> expression |
| Substitution Property | $a(b+c)=a b+b c$ |
| Distributive Property |  |

Properties of Congruence

| Reflexive Property of Congruence | $\overline{A B} \cong \overline{A B}$ |
| :--- | :---: |
|  | $\angle A \cong \angle A$ |
| Symmetric Property of Congruence | If $\overline{A B} \cong \overline{C D}$, then $\overline{C D} \cong \overline{A B}$ |
|  | If $\angle A \cong \angle B$, then $\angle B \cong \angle A$ |
| Transitive Property of Congruence | If $\overline{A B} \cong \overline{C D}$ and $\overline{C D} \cong \overline{E F}$, then $\overline{A B} \cong \overline{E F}$ |
|  | If $\angle A \cong \angle B$ and $\angle B \cong \angle C$, then $\angle A \cong \angle C$ |

2.5

- Vertical Angles are congruent
- Complementary Angles are two angles that add up to 90 degrees-they are called complements of each other
- Supplementary Angles are two angles that ad up to 180 degrees-they are called the supplements of each other
- All right angles are congruent
- IF two angles ae congruent and supplementary, then each is a right angle.
**2 total proofs-1 justification of an algebra problem and 1 geometry proofs
**Vocabulary from the quiz will also be on the test

