

For 1 and 2, rewrite the statement as an if-then statement. Then write the converse, inverse and contrapositive.

1. All students with a 90% average are on high honor roll.

If-Then: \_\_\_\_\_

\_\_\_\_\_

Converse: \_\_\_\_\_

\_\_\_\_\_

Inverse: \_\_\_\_\_

\_\_\_\_\_

2. When two planes intersect, their intersection is a line.

If-Then: \_\_\_\_\_

\_\_\_\_\_

Converse: \_\_\_\_\_

\_\_\_\_\_

Inverse: \_\_\_\_\_

\_\_\_\_\_

- For 3 through 10:      1) Make a conclusion using statements 1 and 2 below.  
                                 2) State the law you used (Law of Detachment & Law of Syllogism – YOU MUST KNOW THESE)

**\*\*If no conclusion can be made- state no conclusion.\*\***

3. (1) If a triangle has a right angle, then it is a right triangle.  
(2) In  $\triangle ABC$ ,  $\angle A = 90^\circ$ .
4. (1) If  $a = 5$ , then  $b = 6$ .  
(2) If  $b = 6$ , then  $c = 7$ .
5. (1) If a figure is a parallelogram, then opposite sides are equal.  
(2) If a figure is a rhombus, then it is a parallelogram.

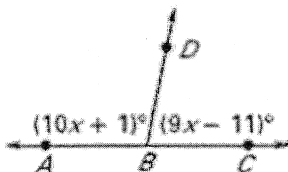
6. (1) If the pet is a dog, then it has a tail.  
 (2) DJ's pet has a tail.
7. (1) If Jessica gets higher than a 95%, then she gets an A.  
 (2) Jessica got an A.
8. (1) If Sara passes the chapter 8 test, then she will pass the semester.  
 (2) If Sara passes the chapter 8 test, then she will have a C+ in the class.
9. (1) If you go to computer camp, you will get a computer.  
 (2) If you make an A in geometry, you can go to computer camp.
10. (1) If the animal is a dog, then the dog likes bones.  
 (2) Uma is a dog.

For 11-14, answer the following related to points, lines, and planes.

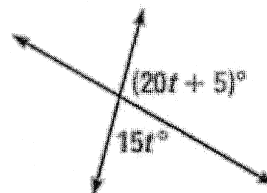
11. Define the word collinear – then draw an example.
12. Define the word coplanar – then draw an example.
13. Define the word perpendicular – then draw an example (include NOTATION!!)
14. Define the word midpoint – then draw an example (include NOTATION!!)

For 15 – 18, use your knowledge of linear pairs, vertical angles, supplementary angles, and complementary angles to find the MEASURE OF EACH ANGLE in the following diagrams.

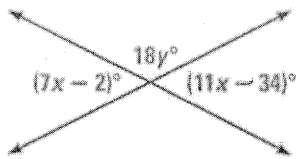
15.



16.



17.



18. Given:  $m\angle A = (4x - 2)^\circ$  and  $m\angle B = (11x + 17)^\circ$

a. Find the measure of each angle if the two angles are COMPLEMENTARY

b. Find the measure of each angle if the two angles are SUPPLEMENTARY

In 19 through 21, solve the equations. Write a REASON for each step.

19.  $10x - 6 = 74$

Step	Reason

20.  $4(x - 5) = 140$

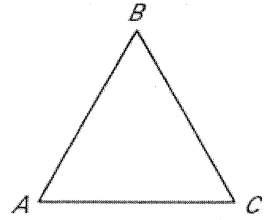
Step	Reason

21.  $3(2x - 7) + 5 = -10$

Step	Reason

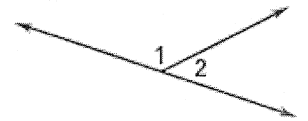
For 22 – 26, write a proof about the segments and angles using the GIVEN statements, vocabulary, and diagram to help you. IF you are stuck – write down EVERYTHING you know, and then start to think about how you can combine these pieces of information to prove the statement.

22. **GIVEN:**  $m\angle A = m\angle B$ ,  $m\angle B = m\angle C$   
**PROVE:**  $\angle A \cong \angle C$



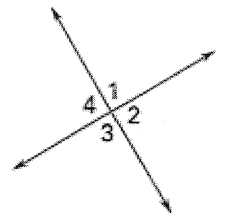
Statements	Reasons

23. **GIVEN:**  $\overline{DE} = \overline{EF}$ ,  $\overline{EF} = \overline{DF}$   
**PROVE:**  $\overline{DF} \cong \overline{DE}$



Statements	Reasons

24. **GIVEN:**  $\angle 3 \cong \angle 2$   
**PROVE:**  $m\angle 1 = m\angle 4$



Statements	Reasons