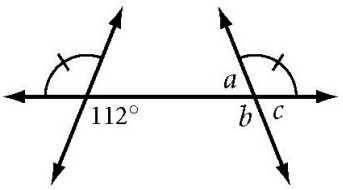
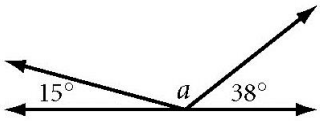
Name_____ Date_____

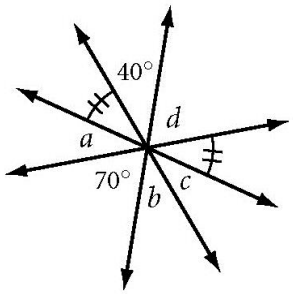
Mr.D

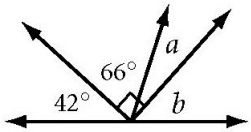
2.5 - Proofs About Angle Pairs and Segments (Part 2)

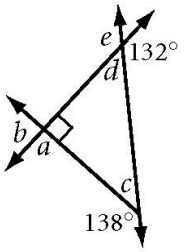
For Exercises 1–8, find each lettered angle measure without using a protractor.

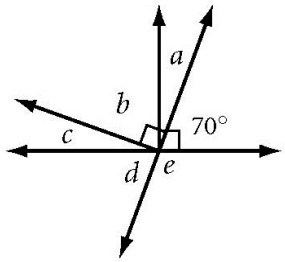
1) 

2) 

3) 

4) 

5) 

6) 

For #7–12, tell whether each statement is always (A), sometimes (S), or never (N) true.

7) The sum of the measures of two acute angles equals the measure of an obtuse angle.

8) If $\angle XAY$ and $\angle PAQ$ are vertical angles, then either *X*, *A*, and *P* or *X*, *A*, and *Q* are collinear.

9) The sum of the measures of two obtuse angles equals the measure of an obtuse angle.

10) The difference between the measures of the supplement and the complement of an angle is 90°.

11) If two angles form a linear pair, then they are complementary.

12) If a statement is true, then its converse is true.

For # 13–16, fill in each blank to make a true statement.

13) If one angle of a linear pair is obtuse, then the other is _____.

14) If $\angle A \cong \angle B$ and the supplement of $\angle B$ has measure 22°, then $m\angle A =$ _____.

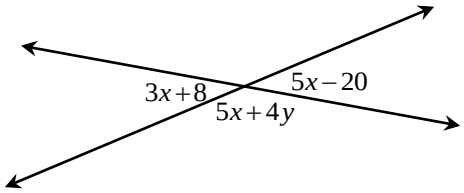
15) If $\angle P$ is a right angle and $\angle P$ and $\angle Q$ form a linear pair, then $m\angle Q$ is _____.

16) If $\angle S$ and $\angle T$ are complementary and $\angle T$ and $\angle U$ are supplementary, then $\angle U$ is a(n)

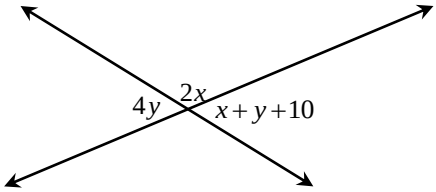
_____ angle.

Find the value of each variable and each angle. SHOW ALL ALGEBRAIC WORK!

17)

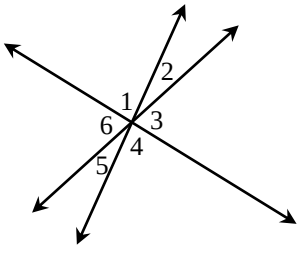


18)



19) Given: $\angle 1 \cong \angle 3$

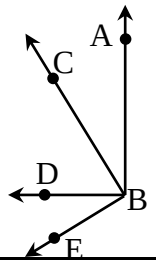
Prove: $\angle 6 \cong \angle 4$



Statement	Reasons
1. $\angle 1 \cong \angle 3$	_____
2. $\angle 3 \cong \angle 6$	_____
3. _____	Transitive Property
4. $\angle 1 \cong \angle 4$	_____
5. $\therefore \angle 6 \cong \angle 4$	_____

20) Given: $\angle ABD$ is a right angle
$\angle CBE$ is a right angle

Prove: $\angle ABC \cong \angle DBE$



Statement	Reasons
1. $\angle ABD$ is a right angle $\angle CBE$ is a right angle	_____
2. $\angle ABC$ and $\angle CBD$ are complementary	_____
3. $\angle DBE$ and $\angle CBD$ are complementary	_____
4. $\therefore \angle ABC \cong \angle DBE$	_____