

Honors Geometry Chapter 2 Review

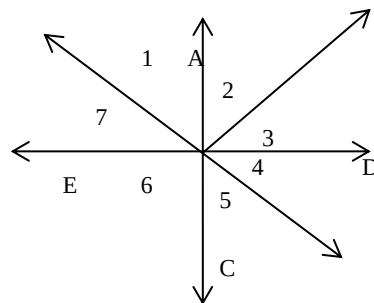
1. Draw the diagram, list the givens and what you need to prove for the following conditional:

If 2 lines intersect, then the vertical angles formed are congruent.

2. Know how to write the converse, inverse, contrapositive of a conditional statement. Also know how to write the biconditional of a statement.

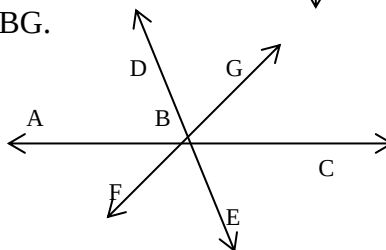
3. Use the diagram to solve for x . $\overline{AC} \perp \overline{ED}$

- a) If $m\angle 2 = 5x$, $m\angle 3 = x + 30$
- b) If $m\angle 1 = 3x + 2$, $m\angle 5 = 6x - 7$
- c) If $m\angle 4 = 5x + 10$, $m\angle 1 = 7x + 4$



4. State the reason for each statement. $\overline{BD}$ bisects $\angle ABG$.

- a) $AB + BC = AC$
- b) $m\angle ABD = \frac{1}{2} m\angle ABG$
- c) $\angle ABD \cong \angle EBC$
- d) $m\angle ABG + m\angle GBC = 180$
- e) $\overline{FB} \cong \overline{FB}$



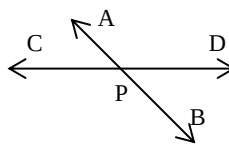
5. What comes next in the pattern: 1, 5, 9, 14, ...

6. Given: $m\angle 1 = 60$, $m\angle 2 = 2 \cdot m\angle 1$, Prove: $m\angle 1$ and $m\angle 2$ are supplementary.

7. Find a counterexample to the following: If it is cloudy, then it is raining.

Answers:

1. Given: $\overline{AB}$ and $\overline{CD}$ intersect at point P
Prove: $\angle APC \cong \angle DPB$ and $\angle APD \cong \angle CPB$



2. ----

3. a) 10 b) 3 c) 6.33

4. a) segment addition b) angle bisector theorem c) vertical angles d) linear pair e) reflexive

5. 18

- 6.

Statements	Reasons
1. $m\angle 1 = 60$, $m\angle 2 = 2 \cdot m\angle 1$	1. Given
2. $m\angle 2 = 2 \cdot 60$	2. Substitution
3. $m\angle 2 = 120$	3. Multiplication
4. $m\angle 1 + m\angle 2 = 60 + 120 = 180$	4. Substitution
5. $\angle 1$ and $\angle 2$ are supplementary	5. defn of supplementary