NAME _____

Lesson 5.7 Angle Relationships

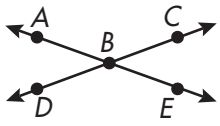
When two lines intersect, they form angles that have special relationships.

Vertical angles are opposite angles that have the same measure.

Supplementary angles are two angles whose measures have a sum of 180°.

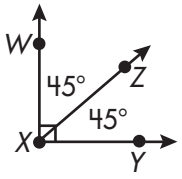
Complementary angles are two angles whose measures have a sum of 90°.

A **bisector** divides an angle into two angles of equal measure.



$\angle ABC$ and $\angle DBE$ are vertical.

$\angle ABD$ and $\angle DBE$ are supplementary.

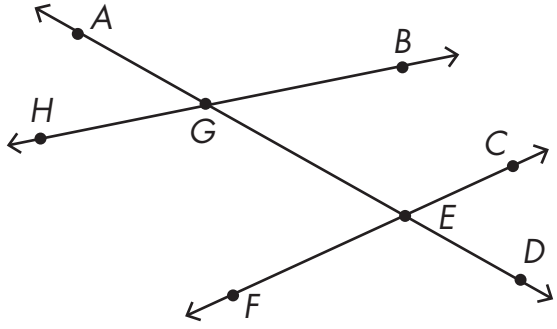


$\angle WXZ$ and $\angle ZXY$ are complementary.

$\overrightarrow{XZ}$ is the bisector of $\angle WXY$.

Identify each pair of angles as *supplementary* or *vertical*.

1. $\angle AGB$ and $\angle HGE$ _____
2. $\angle BGE$ and $\angle HGE$ _____
3. $\angle GEC$ and $\angle CED$ _____
4. $\angle GEC$ and $\angle DEF$ _____
5. $\angle AGH$ and $\angle BGE$ _____
6. $\angle GEF$ and $\angle DEF$ _____



Solve each problem.

7. $\angle A$ and $\angle G$ are vertical angles. The measure of $\angle A$ is 72°. What is the measure of $\angle G$?

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8. $\angle Y$ and $\angle Z$ are supplementary angles. The measure of $\angle Y$ is 112°. What is the measure of $\angle Z$? _____

9. $\angle A$ and $\angle B$ are complementary angles. The measure of $\angle A$ is 53°. What is the measure of $\angle B$? _____

10. $\angle RST$ is bisected by ray SW. The measure of $\angle WST$ is 30°, what is the measure of $\angle RST$? _____