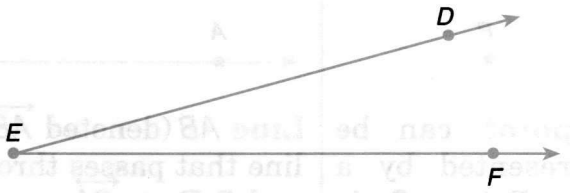
NAME _____

Lesson 2 Rays and Angles

Ray AB (denoted $\overrightarrow{AB}$) consists of point A and all points on $\overrightarrow{AB}$ that are on the same side of A as B. The endpoint of $\overrightarrow{AB}$ is point _____.



An **angle** is formed by two rays that have a common endpoint. Angle DEF (denoted $\angle DEF$) is formed by rays $\overrightarrow{ED}$ and $\overrightarrow{EF}$. Does $\angle FED$ name the same angle? _____

Complete the following as shown.

1. 

ray MN $\overrightarrow{MN}$ endpoint of ray: M

2. 

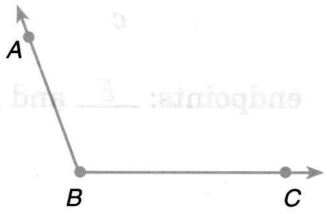
ray _____ _____ endpoint of ray: _____

3. 

ray _____ _____ endpoint of ray: _____

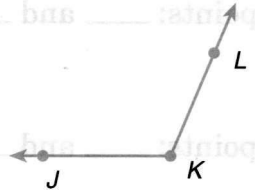
4. 

ray _____ _____ endpoint of ray: _____

5. 

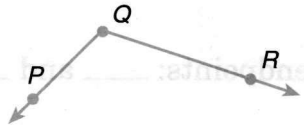
angle ABC or CBA $\angle ABC$ or $\angle CBA$

rays $\overrightarrow{BA}$ and $\overrightarrow{BC}$

6. 

angle _____ or _____ _____ or _____

rays _____ and _____

7. 

angle _____ or _____ _____ or _____

rays _____ and _____

NAME _____

Lesson 3 Measuring Angles

You can use a protractor to find the measure of an angle.

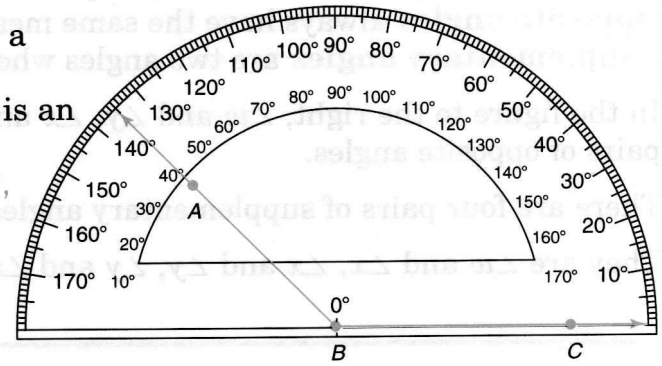
If the measure of an angle is 90°, **the angle is a** right angle.

If the measure of an angle is less than 90°, **it is an** acute angle.

If the measure of an angle is greater than 90°, **it is an** obtuse angle.

The measure of $\angle ABC$ **is** 135°.

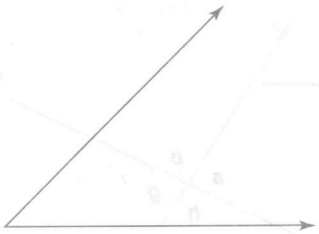
$\angle ABC$ **is an** obtuse **angle.**

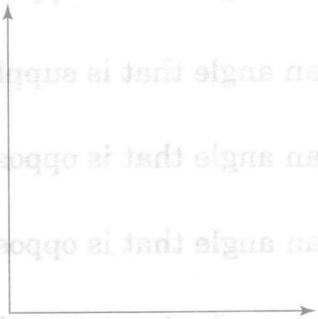


Find the measure of each angle. Write whether the angle is *right, acute,* or *obtuse.*

a *b*

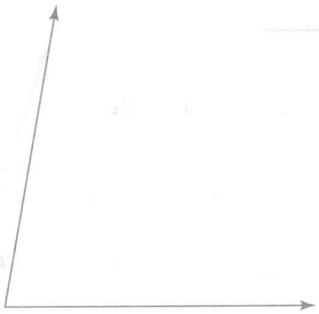
1.

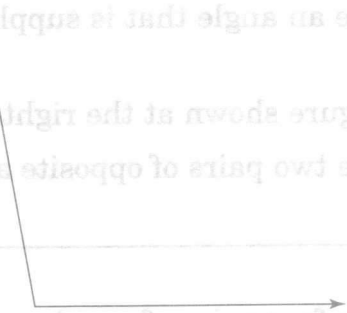




_____ _____ _____ _____

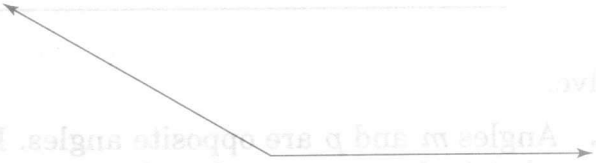
2.





_____ _____ _____ _____

3.



_____ _____ _____ _____

CHAPTER 10

NAME _____

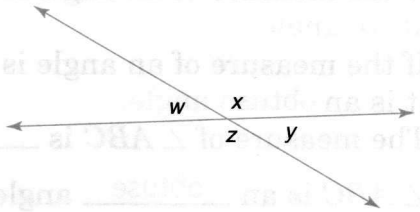
Lesson 4 Opposite and Supplementary Angles

When two straight lines intersect, they form opposite angles and supplementary angles.
Opposite angles always have the same measure.
Supplementary angles are two angles whose measures have a sum of 180°.

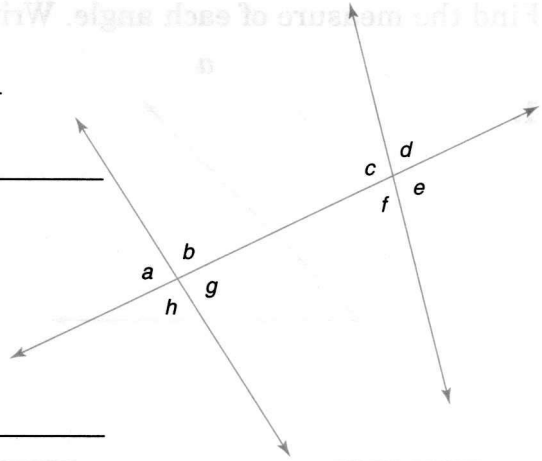
In the figure to the right, $\angle w$ and $\angle y$, $\angle x$ and $\angle z$ are both pairs of opposite angles.

There are four pairs of supplementary angles in the figure.

They are $\angle w$ and $\angle x$, $\angle x$ and $\angle y$, $\angle y$ and $\angle z$, $\angle z$ and $\angle w$.

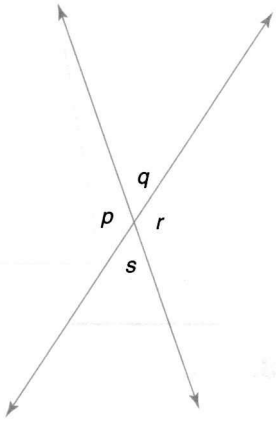


Identify the following.



1. Name an angle that is opposite to $\angle b$. _____
2. Name an angle that is supplementary to $\angle d$. _____
3. Name an angle that is opposite to $\angle f$. _____
4. Name an angle that is opposite to $\angle e$. _____
5. Name an angle that is supplementary to $\angle h$. _____
6. Name an angle that is supplementary to $\angle a$. _____

Use the figure shown at the right.



7. Name two pairs of opposite angles.

   _____

8. Name four pairs of supplementary angles.

   _____

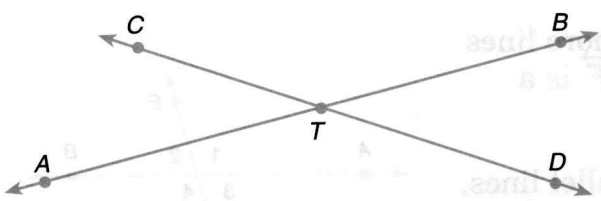
Solve.

9. Angles m and p are opposite angles. If $\angle p$ measures 115°, what is the measure of $\angle m$? _____

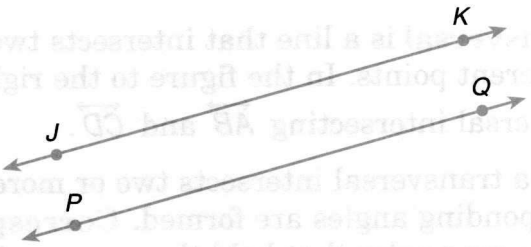
10. Angles j and k are supplementary angles. If $\angle j$ measures 62°, what is the measure of $\angle k$? _____

NAME _____

Lesson 5 Parallel and Intersecting Lines

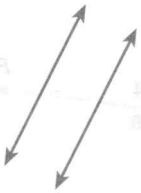
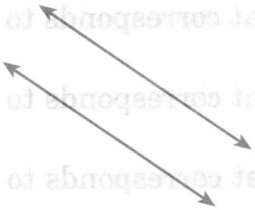
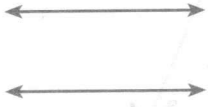
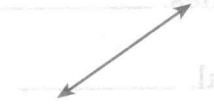


Lines like $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are called **intersecting lines.** What point do $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ have in common? _____



Lines like $\overleftrightarrow{JK}$ and $\overleftrightarrow{PQ}$ are called **parallel lines.** Will $\overleftrightarrow{JK}$ and $\overleftrightarrow{PQ}$ ever intersect, no matter how far extended? _____

Complete the following as shown.

		a *type of lines*		*b* *type of lines*
1.		parallel		intersecting
2.		_____		_____
3.		_____		_____

Answer the following.

4. In how many points do two parallel lines intersect? _____

5. Can two lines be parallel and also intersect? _____

6. In how many points can two lines intersect? _____

7. If $\overleftrightarrow{AB}$ is parallel to $\overleftrightarrow{CD}$, is $\overleftrightarrow{CD}$ parallel to $\overleftrightarrow{AB}$? _____

CHAPTER 10

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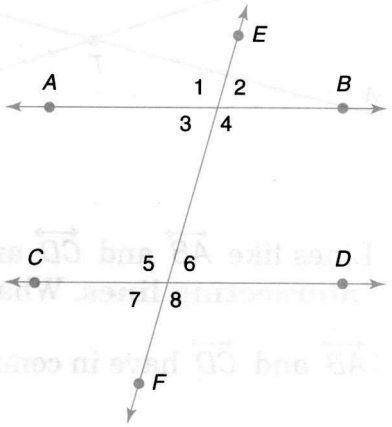
Lesson 6 Transversals

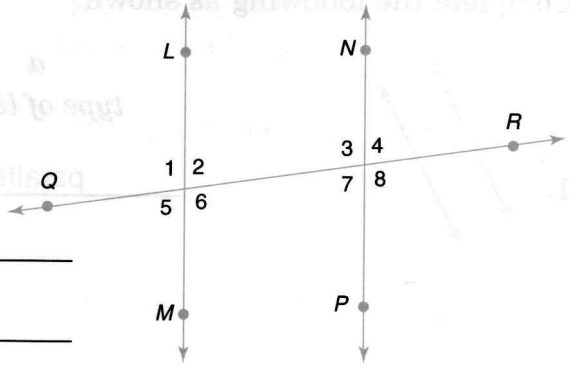
A **transversal** is a line that intersects two or more lines at different points. In the figure to the right, $\overleftrightarrow{EF}$ is a transversal intersecting $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$.

When a transversal intersects two or more parallel lines, corresponding angles are formed. **Corresponding angles** are angles that hold the same position on two different parallel lines intersected by a transversal. The following pairs of angles are corresponding angles in the figure to the right.

$\angle 1$ and $\angle 5$; $\angle 2$ and $\angle 6$; $\angle 3$ and $\angle 7$; $\angle 4$ and $\angle 8$

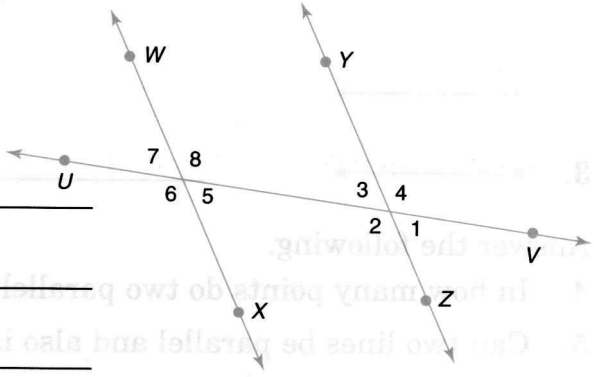


Use the figure to identify the following.



1. Name the parallel lines. _____
2. Name the transversal. _____
3. Name the angle that corresponds to $\angle 2$. _____
4. Name the angle that corresponds to $\angle 3$. _____
5. Name the angle that corresponds to $\angle 5$. _____
6. Name the angle that corresponds to $\angle 8$. _____

Use the figure to identify the following.

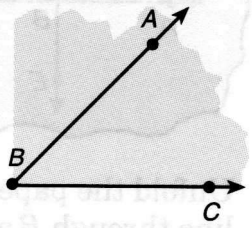


7. Name the parallel lines. _____
8. Name the transversal. _____
9. Name the angle that corresponds to $\angle 7$. _____
10. Name the angle that corresponds to $\angle 1$. _____
11. Name the angle that corresponds to $\angle 4$. _____
12. Name the angle that corresponds to $\angle 6$. _____

NAME _____

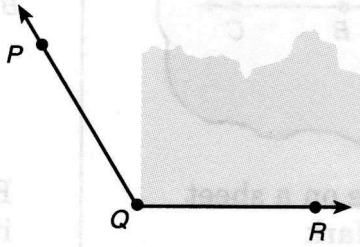
Lesson 8 Types of Angles

Compare $\angle ABC$ with a model of a right angle, such as the corner of a sheet of paper.



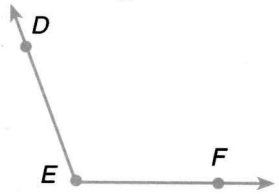
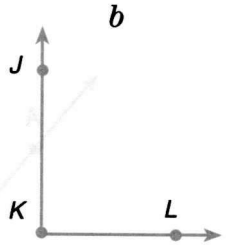
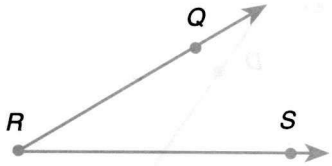
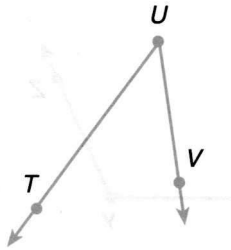
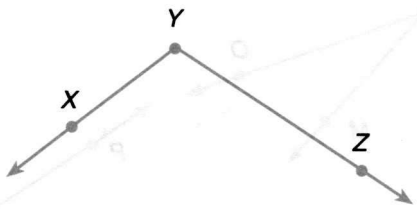
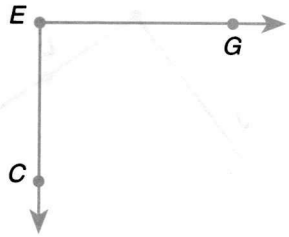
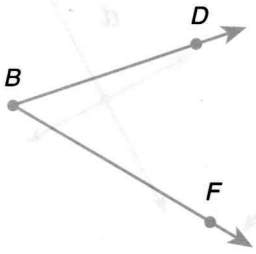
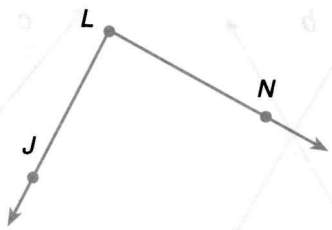
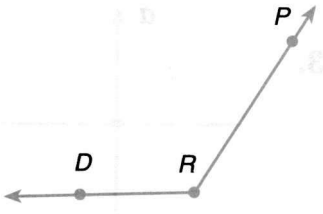
Does $\angle ABC$ appear to be larger or smaller than a right angle? _____
Angles like $\angle ABC$ are called **acute angles.**

Compare $\angle PQR$ with a model of a right angle.



Does $\angle PQR$ appear to be larger or smaller than a right angle? _____
Angles like $\angle PQR$ are called **obtuse angles.**

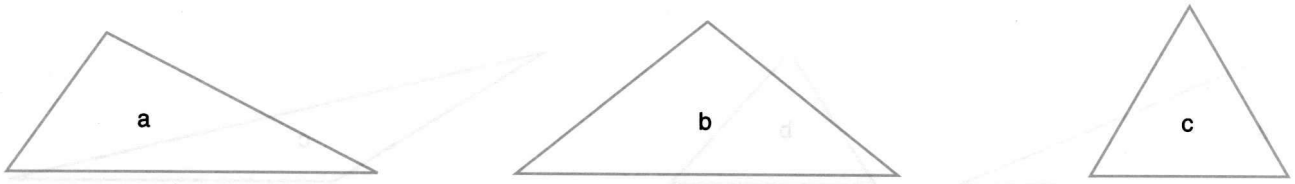
Compare each angle with a model of a right angle. Then tell whether the angle is an *acute,* an *obtuse,* or a *right* angle.

	a	*b*	*c*
1.	 _____	 _____	 _____
2.	 _____	 _____	 _____
3.	 _____	 _____	 _____

NAME _____

Lesson 10 Types of Triangles by Sides

Use a ruler to compare the lengths of the sides of each triangle.



In a **scalene triangle** no two sides are congruent.

Which triangle above is a scalene triangle? _____

Congruent sides have the same length.

In an **isosceles triangle** at least two sides are congruent.

Which triangles above are isosceles triangles? _____

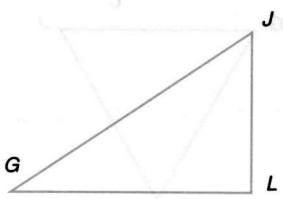
In an **equilateral triangle** all sides are congruent.

Which triangle above is an equilateral triangle? _____

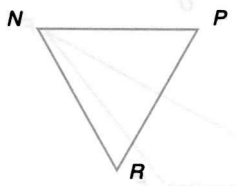
Use a ruler to compare the lengths of the sides of each triangle. Then tell whether the triangle is a *scalene,* an *isosceles,* or an *equilateral* triangle.

a *b* *c*

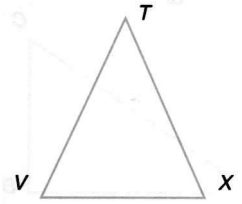
1.



_____ triangle

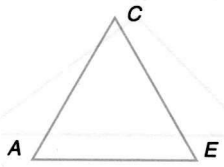


_____ triangle

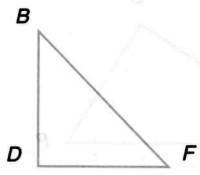


_____ triangle

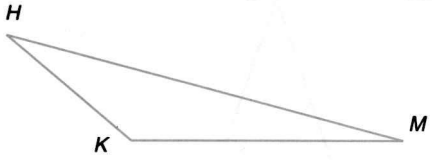
2.



_____ triangle

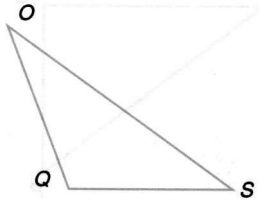


_____ triangle

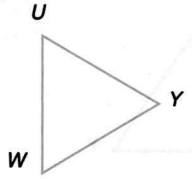


_____ triangle

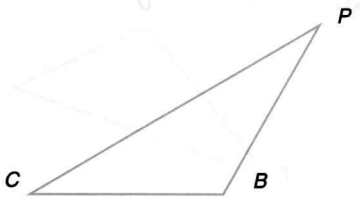
3.



_____ triangle



_____ triangle



_____ triangle