NAME _____

Lesson 1 Lines, Line Segments, and Rays

Line BC or $\overleftrightarrow{BC}$

Any two points on a line can be used to name that line. Do $\overleftrightarrow{BC}$ and $\overleftrightarrow{CB}$ name the same line? _____

_____

Line segment JK or $\overline{JK}$

$\overline{JK}$ consists of all points on the line between and including *endpoints* J and K. Do $\overline{JK}$ and $\overline{JK}$ name the same line segment? _____

_____

Ray PQ or $\overrightarrow{PQ}$

$\overrightarrow{PQ}$ consists of endpoint P and all points on $\overrightarrow{PQ}$ that are on the same side of P as Q. Do $\overrightarrow{PQ}$ and $\overrightarrow{QP}$ name the same ray? _____

_____

Complete the following as shown.

1. 

line ED or DE _____ $\overrightarrow{ED}$ or $\overrightarrow{DE}$ _____

Endpoints: None _____

2. 

ray FG _____ $\overrightarrow{FG}$ _____

Endpoint: F _____

3. 

line segment LM or ML _____ $\overline{LM}$ or $\overline{ML}$ _____

Endpoints: L and M _____

4. 

_____ _____

Endpoint(s): _____

5. 

_____ _____

Endpoint(s): _____

6. 

_____ _____

Endpoint(s): _____

7. 

_____ _____

Endpoint(s): _____

8. 

_____ _____

Endpoint(s): _____

9. 

_____ _____

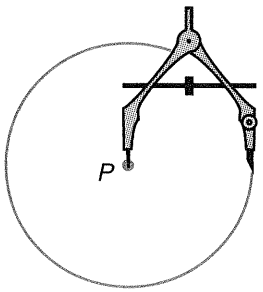
Endpoint(s): _____

CHAPTER 9

NAME _____

Lesson 2 Circles

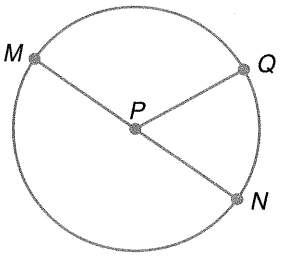
By placing the compass point at point *P*, you can locate all the points in a plane (never-ending flat surface) that are the same distance from point *P*.



A **circle** is a set of points in a plane such that each point is the same distance from some given point called the *centre*.

You can name a circle by naming its centre. Circle *P* is shown at the left.

A **radius** of a circle is a line segment from the centre of the circle to a point on the circle.



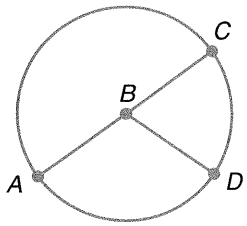
$\overline{PM}$ is a radius of circle *P*. Name two more radii of circle *P*. _____

A **diameter** of a circle is a line segment that has its endpoints on the circle and passes through the centre of the circle.

Name a diameter of circle *P*. _____

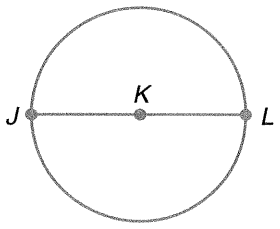
Name the centre, a radius, and a diameter of each circle.

1.



centre	*radius*	*diameter*
_____	_____	_____

2.



_____	_____	_____

Write *True* or *False* after each statement.

3. All radii of the same circle have the same length. _____

4. All diameters of the same circle have the same length. _____

5. The length of a diameter of a circle is twice the length of a radius. _____

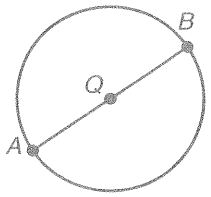
NAME _____

Lesson 3 Angles

An **angle** is formed by two rays that have a common endpoint.

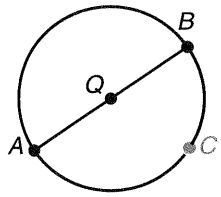
Study how angle ACB (denoted $\angle ACB$) is constructed below.

Step 1



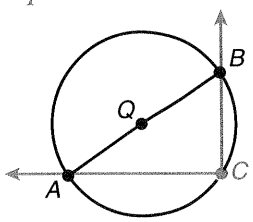
Draw circle Q and diameter AB.

Step 2

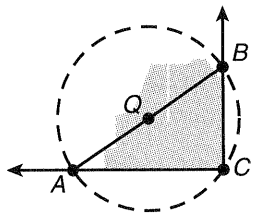


Select point C anywhere on circle Q.

Step 3

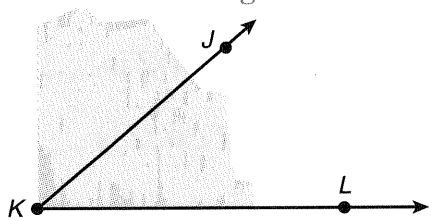


Draw $\overrightarrow{CA}$ and $\overrightarrow{CB}$.



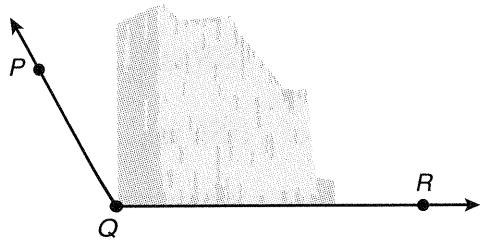
Compare $\angle ACB$ with a corner of a page of this book.

Angles such as $\angle ACB$ are called **right angles.**



Does $\angle JKL$ appear to be larger or smaller than a right angle? _____

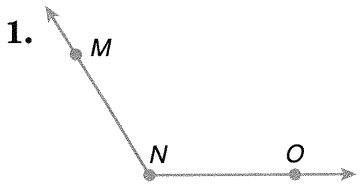
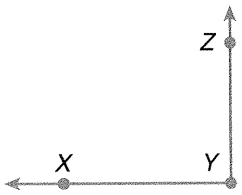
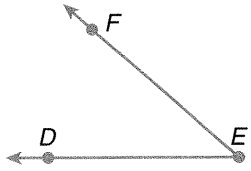
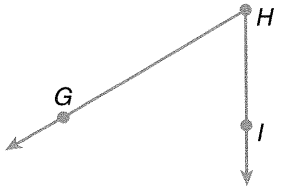
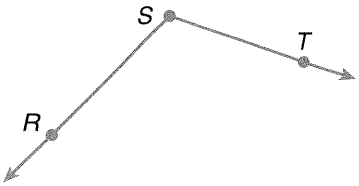
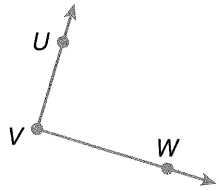
Angles like $\angle JKL$ are called **acute angles.**



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 describe each angle by writing either *acute, obtuse,* or *right* on each _____.

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

NAME _____

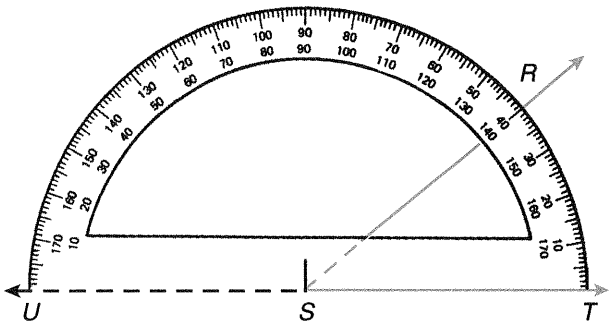
Lesson 4 Angle Measurement

To use a protractor to measure an angle:

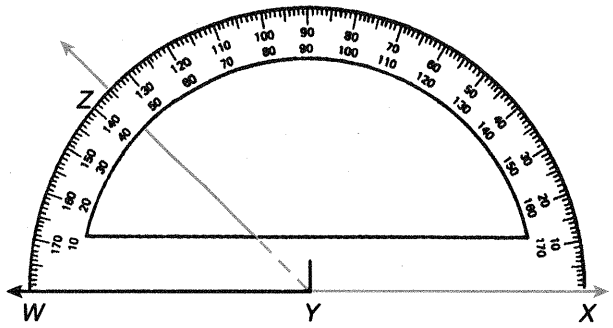
a. Place the centre of the protractor at the vertex of the angle.

b. Align one side of the angle with the base of the protractor so that the other side of the angle intersects the curved edge of the protractor.

c. Use the scale starting at 0 and read the measure of the angle where the other side of the angle intersects the curved edge of the protractor.



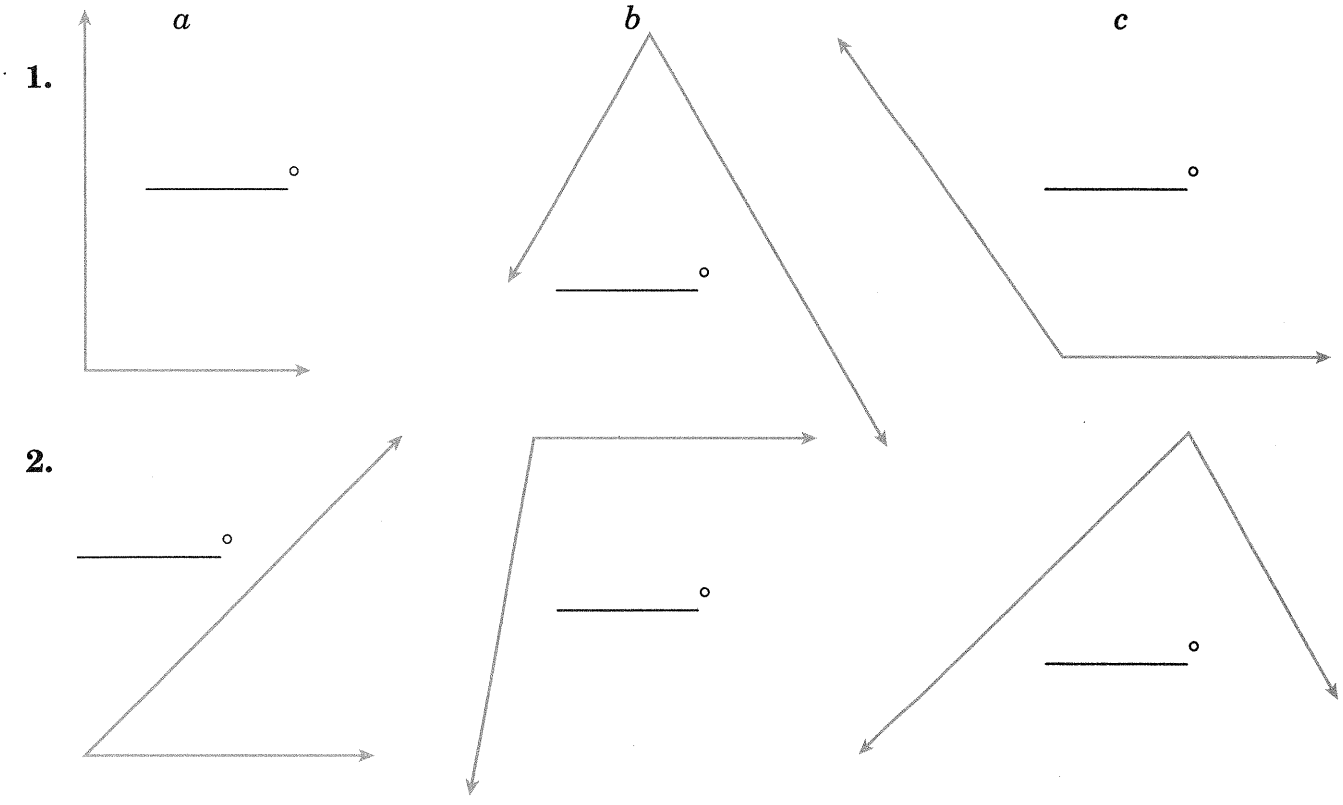
The measurement of $\angle TSR$ is 40°.
40° is read 40 *degrees*.
The measurement of $\angle USR$ is 140°.



The measurement of $\angle XYZ$ is 135°.

The measurement of $\angle WYZ$ is _____.

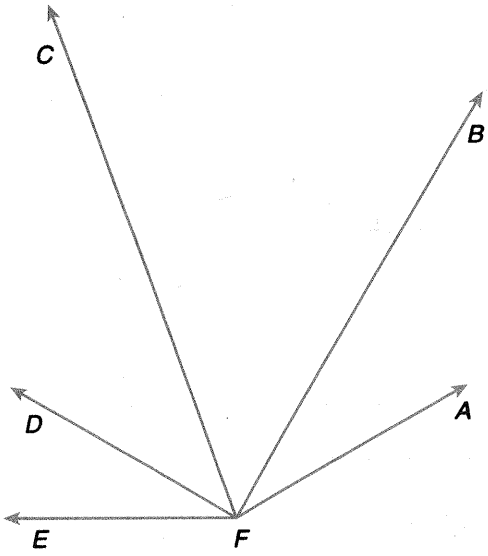
Use a protractor to measure each angle below.



NAME _____

Lesson 5 Angle Measurement

Use a protractor to measure each angle in the figure below.



	a		*b*	
	angle	**measurement**	**angle**	**measurement**
1.	∠AFB	_____	∠BFD	_____
2.	∠BFC	_____	∠CFE	_____
3.	∠CFD	_____	∠AFD	_____
4.	∠DFE	_____	∠BFE	_____
5.	∠AFC	_____	∠AFE	_____

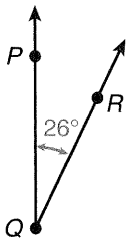
Use a protractor to draw angles having the measurements given below.

	a	*b*	*c*
6.	75°	90°	30°
7.	120°	60°	135°

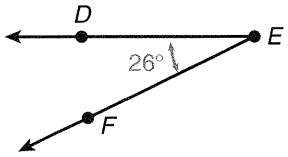
CHAPTER 9

NAME _____

Lesson 6 Congruent Angles



Two angles that have the same size are called **congruent angles.**



The measurement of $\angle PQR$ is 26°.

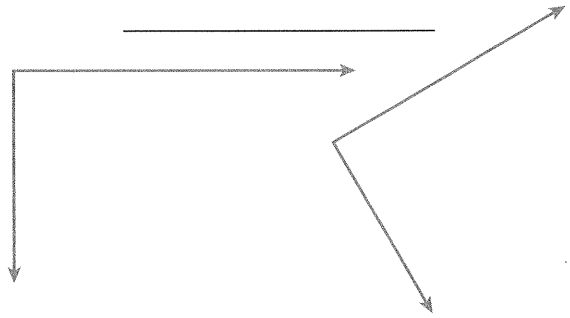
The measurement of $\angle DEF$ is 26°.

$\angle PQR \cong \angle DEF$ (read $\angle PQR$ *is congruent to* $\angle DEF$)

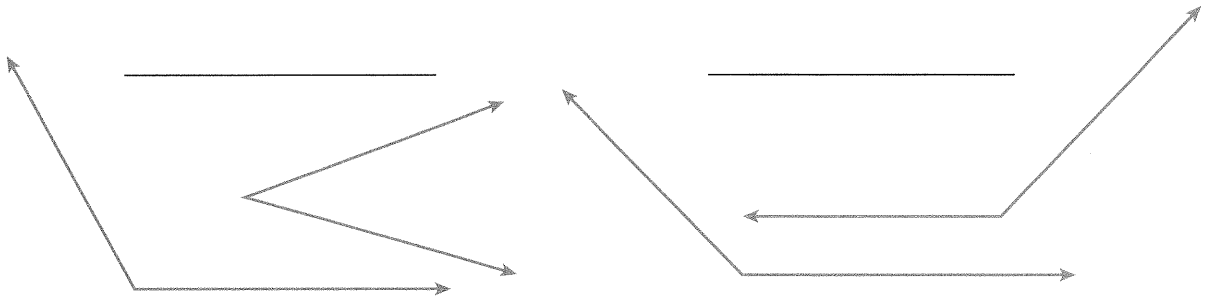
For each exercise, measure both angles. Write *congruent* if the angles are congruent. Write *not congruent* if the angles are not congruent.

a *b*

1. _____ _____

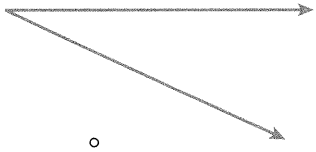


2. _____ _____

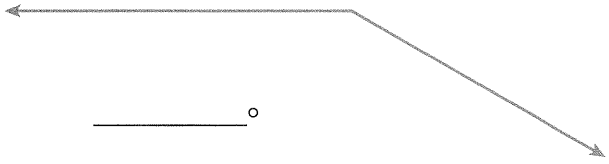


Find the measurement for each angle below. Then draw an angle congruent to each angle.

3.



_____°



_____°

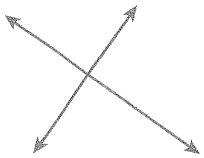
NAME _____

Lesson 7 Parallel and Perpendicular Lines

parallel lines

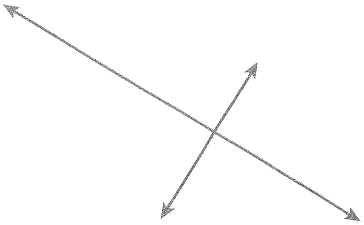
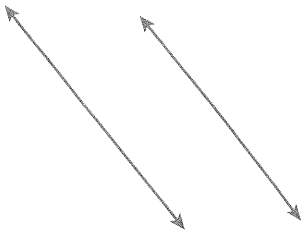
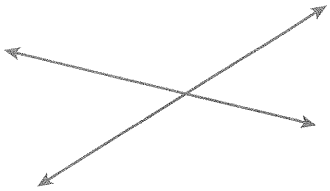
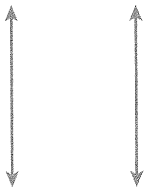
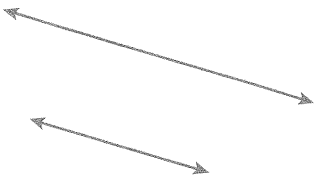
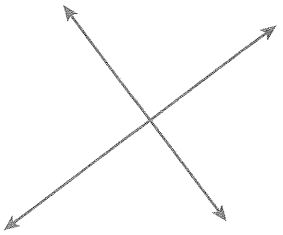
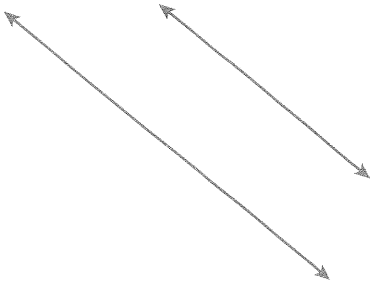
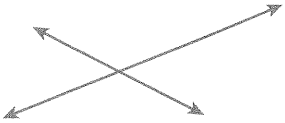
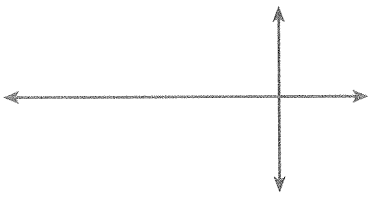
Parallel lines are always the same distance apart. They will never intersect, even if extended.

perpendicular lines



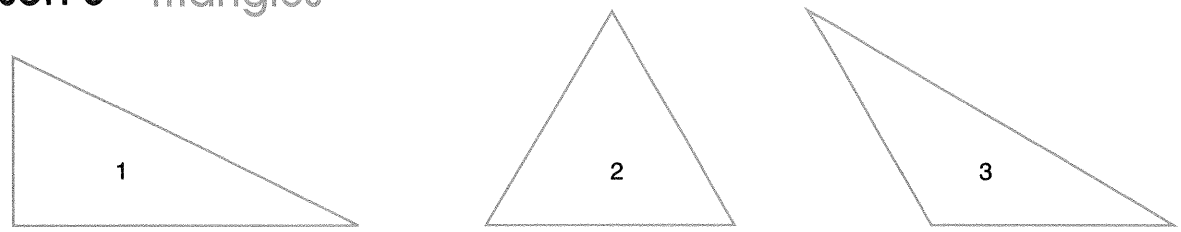
Perpendicular lines form right angles.

Write *parallel* if the lines are parallel. Write *perpendicular* if the lines are perpendicular. Write *neither* if the lines are neither parallel nor perpendicular.

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

NAME _____

Lesson 8 Triangles



Compare the angles of each triangle with a model of a right angle.

An **acute triangle** contains all acute angles.

Which triangle above is an acute triangle?

_____

A **right triangle** contains one right angle.

Which triangle above is a right triangle?

_____

An **obtuse triangle** contains one obtuse angle.

Which triangle above is an obtuse triangle?

_____

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

A **scalene triangle** has no sides the same length.

Which triangle above is a scalene triangle?

_____

An **isosceles triangle** has two or more sides the same length.

Which triangles above are isosceles triangles?

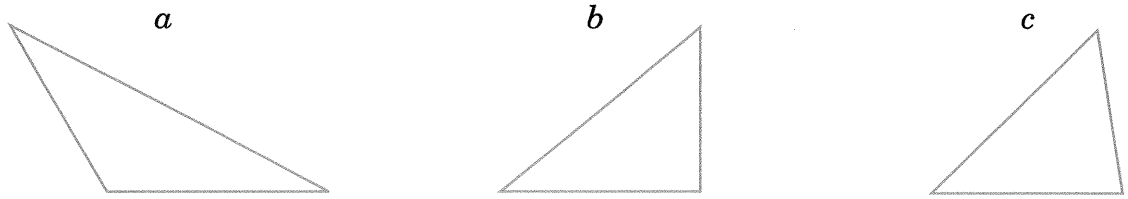
_____

An **equilateral triangle** has all three sides the same length.

Which triangle above is an equilateral triangle? _____

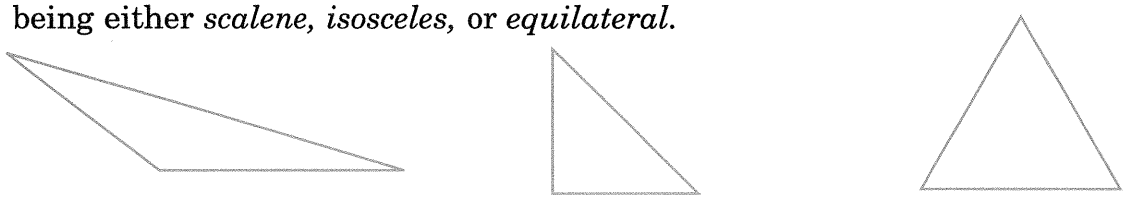
Compare the angles of each triangle below with a model of a right angle. Then describe each triangle as being either *acute, obtuse,* or *right.*

1.



_____ triangle _____ triangle _____ triangle

2. Compare the lengths of the sides of each triangle. Then describe each triangle as being either *scalene, isosceles,* or *equilateral.*

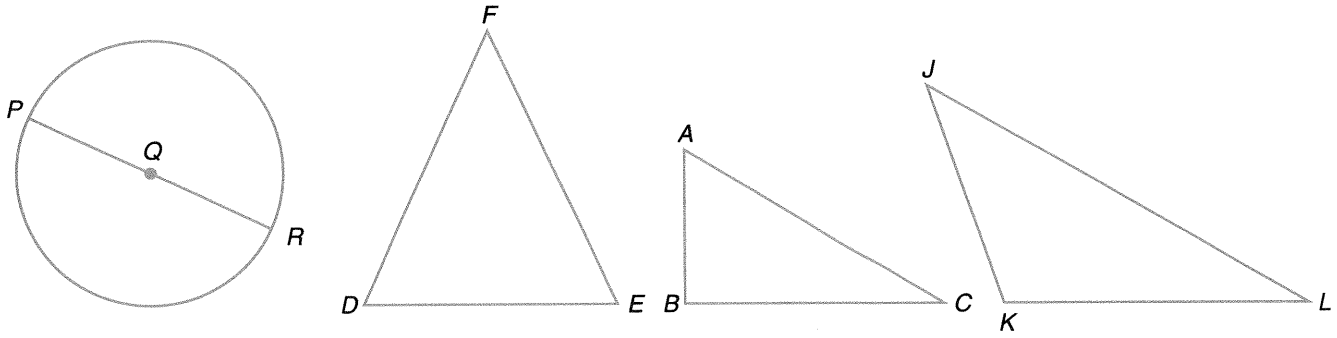


_____ triangle _____ triangle _____ triangle

NAME _____

CHAPTER 9 PRACTICE TEST
Geometry

Use the figures below to answer the questions that follow.



a *b*

1. Name a radius of circle *Q*. _____ Name a diameter of circle *Q*. _____

2. Which figure is a right triangle? Which figure is an isosceles triangle?

_____ _____

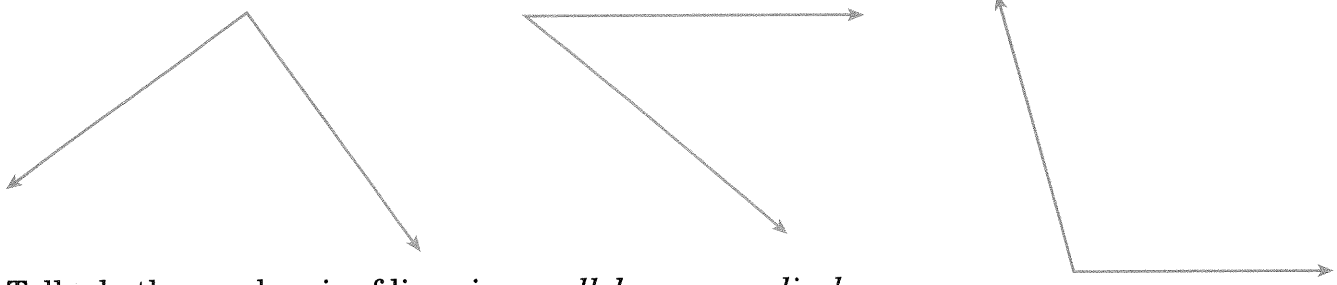
3. Which figures are scalene triangles? Which figure is an obtuse triangle?

_____ _____

Use a protractor to measure each angle. Then describe each angle by writing *acute, obtuse,* or *right.*

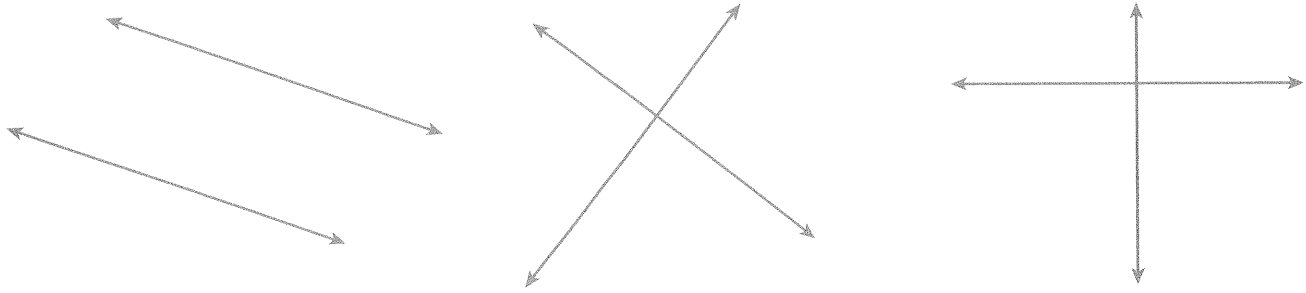
a *b* *c*

4. _____°, _____ _____°, _____ _____°, _____



Tell whether each pair of lines is *parallel* or *perpendicular.*

5. _____ _____ _____

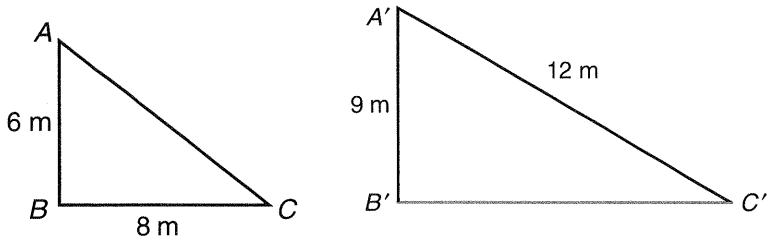


NAME _____

CHAPTER 10 PRETEST
Similar Triangles

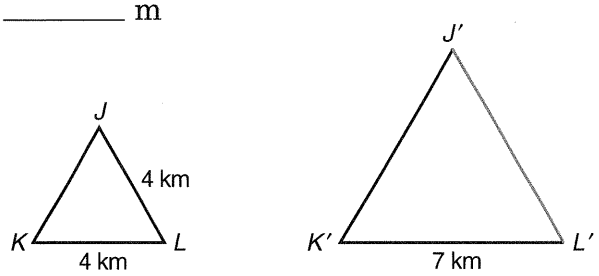
Find the length of the side shown in colour in each pair of similar triangles below.

1.



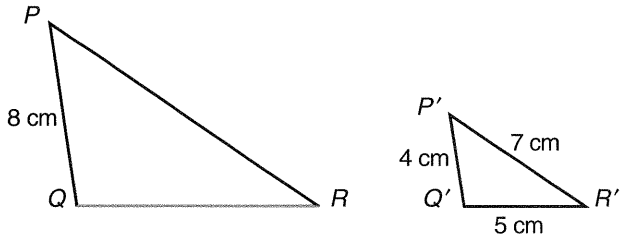
_____ m

2.



_____ km

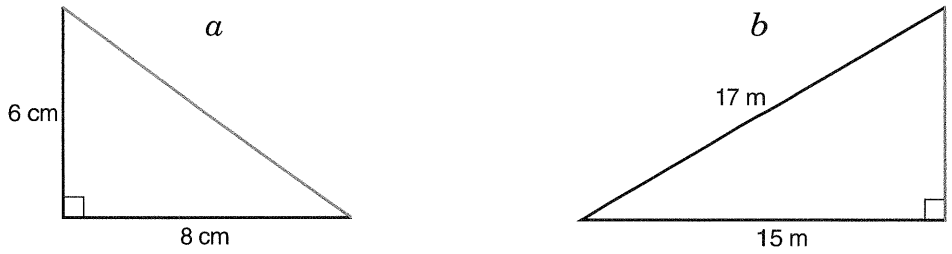
3.



_____ cm

Use the Pythagorean Theorem and the table on page **149** to help you find the length of each side shown in colour below.

4.



_____ cm _____ m

5.

_____ km _____ mm