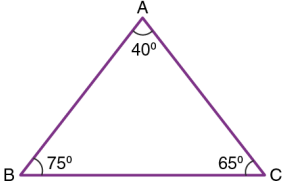
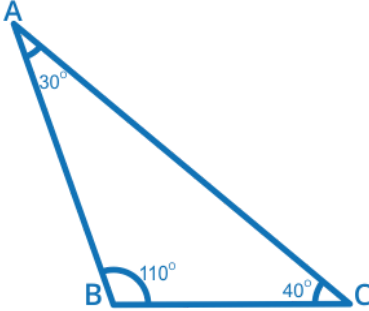
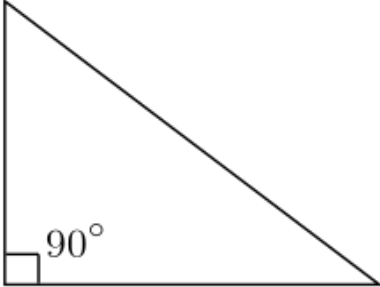
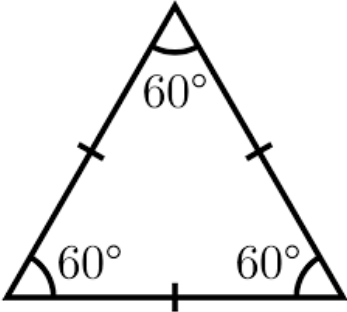


Name _____

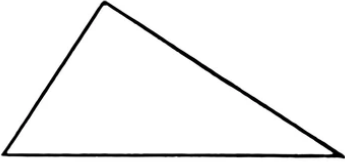
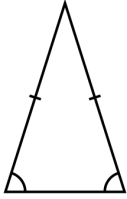
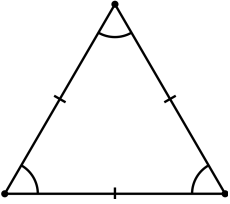
Pre-Algebra Notes
Week 13: Lesson 10.1 and 10.2

Triangles (10.1)

Review: Triangles can be classified by measures of their angles.

Acute Triangle		_____ acute angles
Obtuse Triangle		_____ obtuse angle
Right Triangle		_____ right angle
Equiangular Triangle		3 congruent angles (all the same measure)

Triangles can be classified by the lengths of their sides

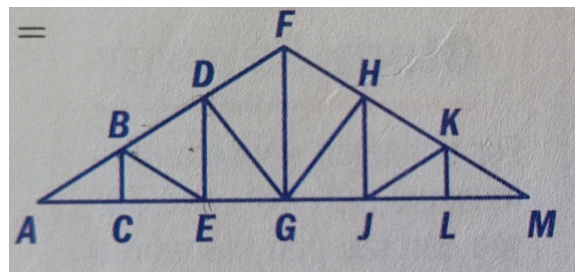
Scalene Triangle		has ___ congruent sides
Isosceles Triangle		at least ___ congruent sides
Equilateral Triangle		has ___ congruent sides

HINT: the three angles of a triangle add up to _____

1. Classifying a Triangle by Angle Measures

In the diagram, $m\angle DBE = 64^\circ$ and $m\angle BDE = m\angle BED$.

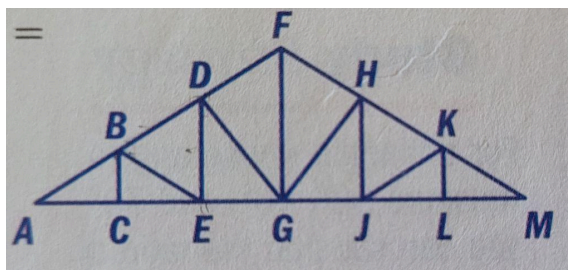
Find $m\angle BDE$ and $m\angle BED$. Then classify $\triangle BDE$ by its angle measures



Extra Practice

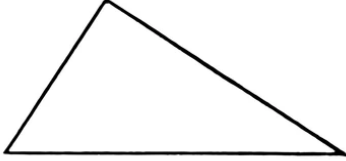
Use the diagram in Example 1. Given that

$m\angle EDG = 38^\circ$ and the measure of $m\angle DEG$ is 38° more than $m\angle DGE$, find $m\angle DGE$ and $m\angle DEG$. Then classify $\triangle DEG$ by its angle measures.



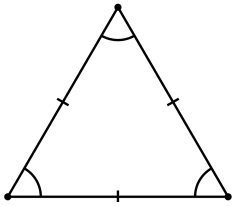
2. Finding Unknown Side Lengths

The perimeter of a scalene triangle is 65cm. The length of the first side is twice the length of the second side. The length of the third side is 20cm. Find the lengths of the other two sides.



Extra Practice

The perimeter of an equilateral triangle is 42 meters. Find the length of each side.



For a triangle whose angles measure 50° , 60° , and 70° , you can say that the ratio of the angles measure is - _____ : _____ : _____ or _____ : _____ : _____

If you now the ratio of the angle measures is 5: 6: 7, you can say that the angle measures are $5x^\circ$, $6x^\circ$, and $7x^\circ$ for some value of x

3. Finding Angle Measures Using a Ratio

The ratio of the angle measures of a triangle is 1: 3: 5. Find the angle measures. Then classify the triangle by its angle measures.

Substitute the value of x () in the expression of each angle measures

Extra Practice

The ratio of the angle measure of a triangle is 3: 5: 12. Find the angle measures. Then classify the triangle by its angle measures.

Polygons and Quadrilaterals (10.2)

Math Vocab.

1. polygon- a closed plane figure whose sides are segments that intersect only at their endpoints.

a. _____ b. _____ c. _____

2. regular polygon- a polygon whose sides all have the _____ and whose angles all have the same _____

Polygons	Regular Polygons	Not polygons

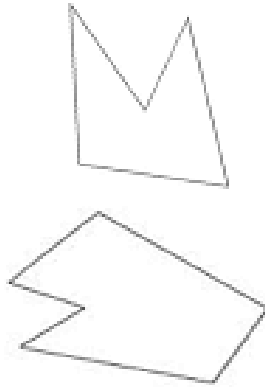
Types of Polygons

3. convex- when a segment joining any two _____ points lies completely within the _____ polygon



4. concave- when a segment joining any two _____ points

_____ lie completely within the polygon



Polygons	Pentagon	Hexagon	Heptagon	Octagon	n-gon
# of Sides	5	6	7	8	n

1. Identifying and Classifying Polygons

Tell whether the figure is a polygon. If it is a polygon, classify it and tell whether it is convex or concave. If not, explain why.

1.



2.



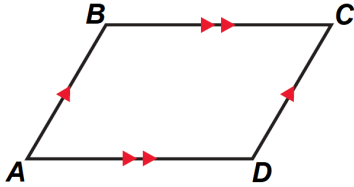
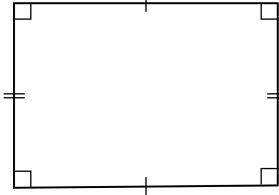
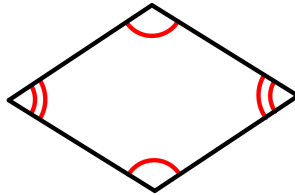
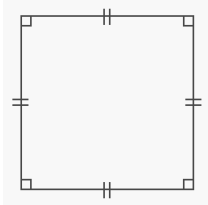

Extra Practice

a.

b.

c.

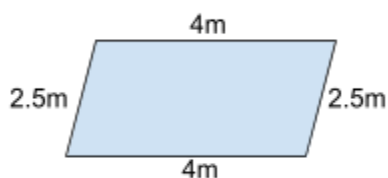
Hint: Quadrilaterals have special names based on whether they have **parallel** or **congruent** sides and whether they have right angles.

Parallelogram		<ul style="list-style-type: none"> -Opposite sides are parallel and congruent. -Opposite angles are congruent.
Rectangle		<ul style="list-style-type: none"> -Parallelogram with four right angles. -Opposite sides are parallel and congruent
Rhombus		<ul style="list-style-type: none"> -Parallelogram with four congruent sides -Opposite angles are congruent
Square		<ul style="list-style-type: none"> - Rectangle with four congruent sides - All angles are right angles
Trapezoid		<ul style="list-style-type: none"> - Quadrilateral with exactly two parallel sides - May have two right angles

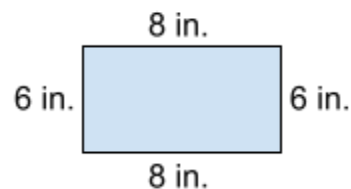
2. Classifying Quadrilaterals

Classify each quadrilateral

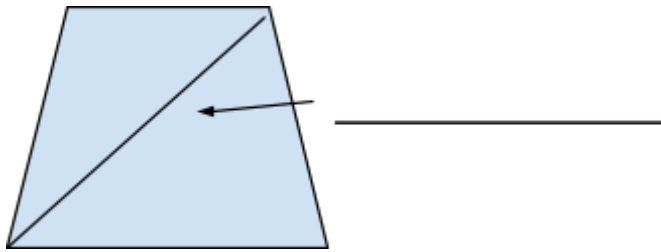
1.



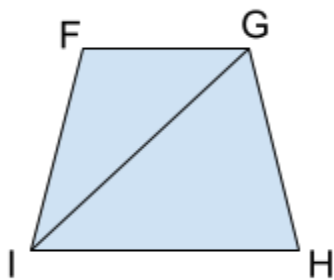
2.



diagonal of a polygon- a _____ that _____ two vertices of the polygon that are _____



Sum of the angles of a quadrilateral are _____



the diagonal divides the quadrilateral into _____ triangles (sum of whose angles is 180°)

3. Finding an Unknown Angle Measure

Find the value of x

