10 Triangles

10.1 Introduction to Triangles

1. The triangle has _____ sides, _____ vertices, and _____ interior angles.

2. The length of the side of the triangle can be any number.

3. The sides of the triangle may be curved.

   True False

4. The triangle is composed of lines.

   True False

5. The vertex points of the triangle are in different planes.

   True False

6. The written symbol for triangle is

   A. T
   B. >
   C. ⊾
   D. △

7. What is △AVR?

8. What is wrong with △ABCD?

10.2 Triangulation

1. Triangulation is the process of dividing more complex geometric objects into triangles.

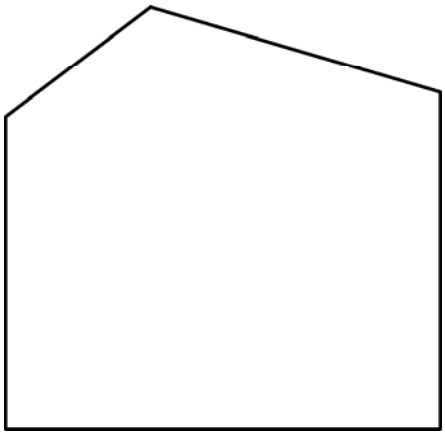
   True False

2. You can triangulate any geometric object.

True False

3. Triangulate this object.

4. Triangulate this object.



10.3 Sum of the Interior Angles of a Triangle

1. The sum of the measures of the _____ angles of the triangle is _____.

2. Given $\triangle ABC$ where $m\angle A = 90^\circ$ and $m\angle B = 60^\circ$, what is $m\angle C$?

3. Given $\triangle XYZ$ where $m\angle A = 80^\circ$ and $m\angle B = 80^\circ$, what is $m\angle C$?

4. A given geometric figure has two interior angles that are right angles. Can it be a triangle?

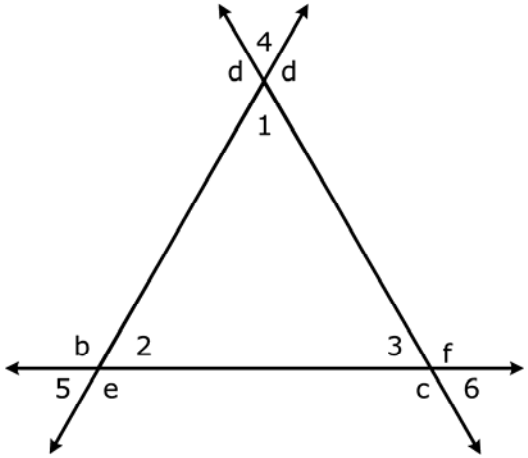
5. A given geometric figure has interior angles that are all congruent. Can the measure of these angles be less than 90°.

6. Is it possible for a triangle to have interior angles that are in the ratio 1 to 2 to 3?

10.4 Exterior Angles of a Triangle

1. The exterior angles of a triangle are _____ to the interior angles.

For the next questions, use the drawing.



2. Which angles are congruent to ∠1? Why?

3. Which angles have equal measure to ∠2? Why?

4. Which angles are supplementary to ∠3?

5. If $m\angle 2 = 60^\circ$, what is $m\angle 5$?

6. If $m\angle 2 = 60^\circ$, what is $m\angle b$?

7. If $\angle 1 \cong \angle 2 \cong \angle 3$, what is $m\angle e$?

8. Can $m\angle f = 180^\circ$

9. If $\angle b \cong \angle 2$, what is true about $\angle 1$ and $\angle 3$?

10. Can $m\angle d = m\angle 5$?

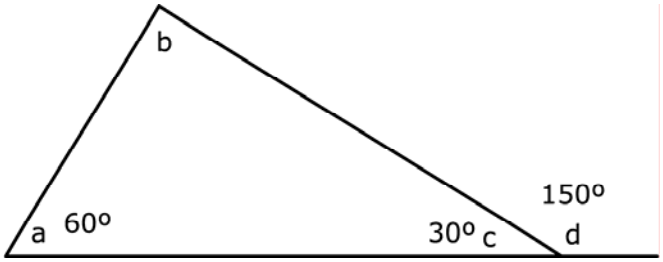
10.5 Remote or Nonadjacent Angles

1. A remote angle is a nonadjacent angle.

True False

2. In triangle △ABC, if $m\angle A = 30^\circ$ what is sum of the measure of the remote angles? What are the remote angles?

3. If $m\angle a = 60^\circ$ and $m\angle d = 150^\circ$, what is $m\angle b$?



10.6 Introduction to Classifying Triangles

1. Triangles can be classified by the properties of their angles.

True False

2. Triangles are never classified by the properties of their sides.

True False

10.7 Classifications of Triangles by Sides

1. The classification of a triangle by sides is determined by the number of _____ sides

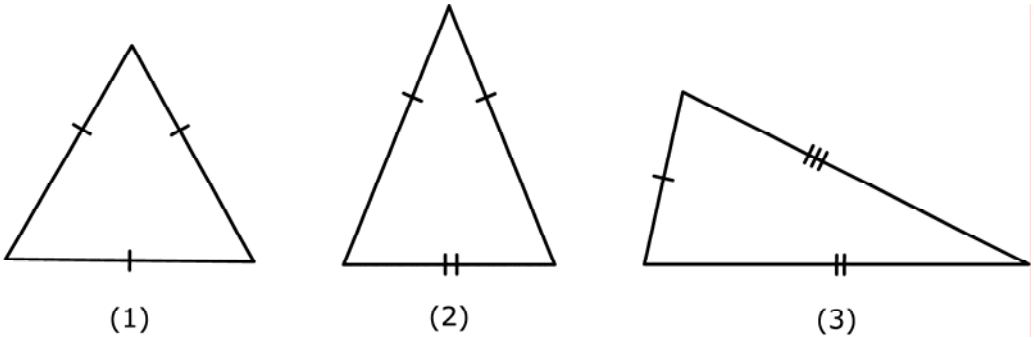
10.8 Equilateral Triangle

1. If a triangle has three congruent sides it is an _____ triangle.

2. Triangle △ABC has sides such that AB = 7, BC = 7, CA = 7. Describe this triangle.

3. Are all triangles equilateral triangles.

4. Which triangle is an equilateral triangle?



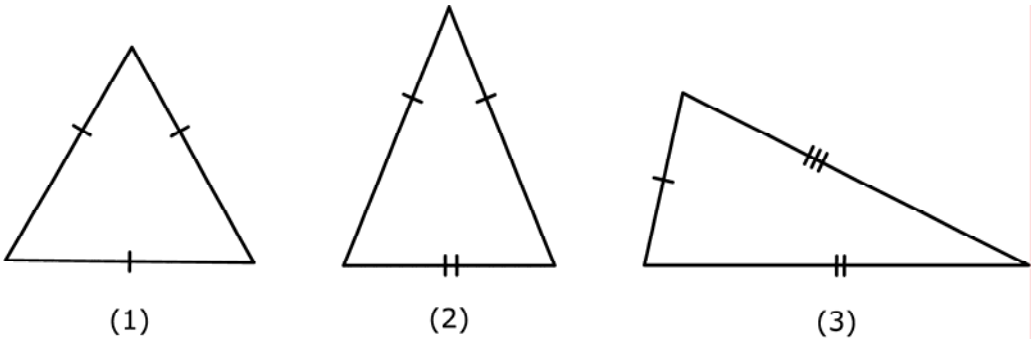
10.9 Isosceles Triangle

1. An isosceles triangle has _____ sides that are the _____ .

2. An equilateral triangle is an isosceles triangle.

   True False

3. Which triangle is an isosceles triangle?



10.10 Scalene Triangle

1. A scalene triangle has sides that are _____.