

Welcome back!!



**NEW YEAR  
ME!**

## Warm-up

1. What has keys but can't open locks?
2. I'm tall when I'm young, and I'm short when I'm old. What am I?
3. What has hands but can't clap?
4. I'm not alive, but I grow; I don't have lungs, but I need air; I don't have a mouth, but water kills me. What am I?
5. What can travel around the world while staying in the corner?
6. What comes once in a minute, twice in a moment, but never in a thousand years?
7. I have a neck but no head. What am I?
8. What has a face and two hands but no arms or legs?
9. I'm light as a feather, but even the world's strongest man couldn't hold me for much longer. What am I?

## **ANSWERS**

1. A piano
2. A candle
3. A clock
4. Fire
5. A stamp
6. The letter "M"
7. A bottle
8. A clock
9. Your breath

## Polygons



- A **polygon** is a 2D shape made up of straight lines, where the lines connect to form a closed figure.
- The simplest polygon is a **triangle** (3 sides), but polygons can have more sides.
- **Types of Polygons:**
  - > **Triangles (3 sides)**
  - > **Quadrilaterals (4 sides):** Include squares, rectangles, trapezoids, and parallelograms.
  - > **Pentagons (5 sides)**
  - > **Hexagons (6 sides)**
  - > **Heptagons (7 sides)** and beyond.



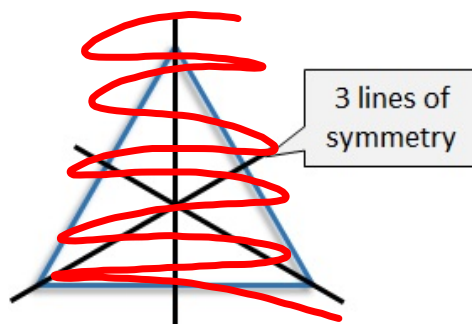
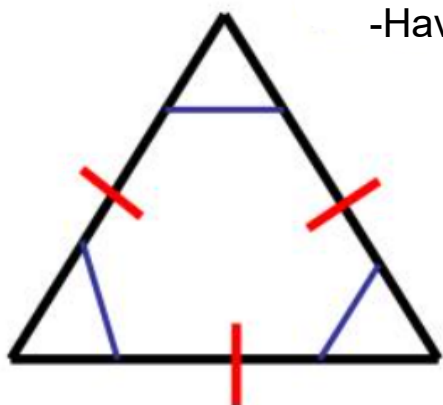
## Calculating Perimeter:

- Perimeter is the total distance around the outside of a shape
- To calculate perimeter:
  - > Add up all the side lengths ( $P = s+s+s\dots$ )
  - > REMEMBER: Different shapes have a different number of sides

TODAY:  
TRIANGLES

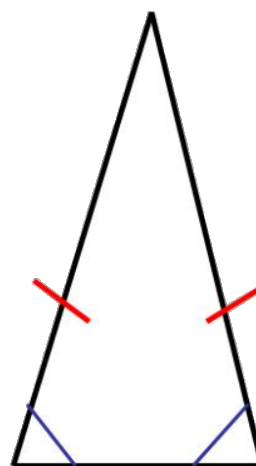
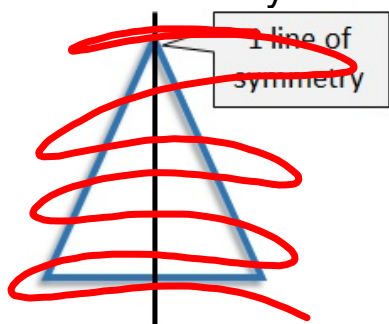
## Equilateral Triangles

- Have 3 equal side lengths
- Have 3 equal angles (all angles are  $60^\circ$ )
- Have 3 lines of symmetry



# Isosceles Triangle

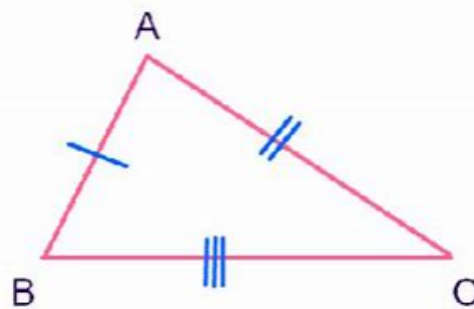
- Have 2 equal side lengths
- Have 2 equal angles
- Have 1 line of symmetry





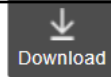
## Scalene Triangle

- Have NO equal side lengths
- Have NO equal angles
- Have NO line of symmetry



Scalene triangle

# Right-Angled Triangles



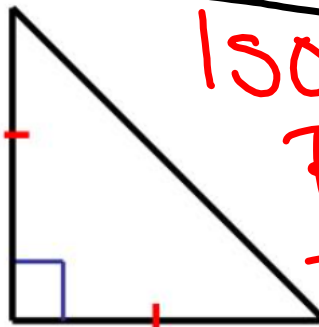
Right-Angled Triangles can be either isosceles or scalene triangles

They have an Interior angle of 90 degrees

Scalene Right Triangle



Scalene Right Angled Triangle



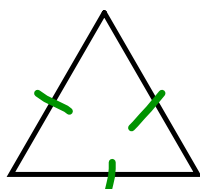
Isosceles Right Triangle

Isosceles Right Angled Triangle

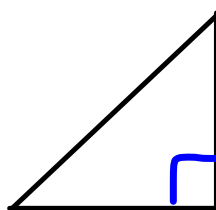
Based on our notes, lets identify the triangles (we do not have our rulers so we will do our best to guess)



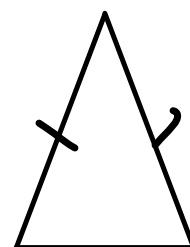
Scalene



equilateral



isosceles  
Right  
triangle



isosceles

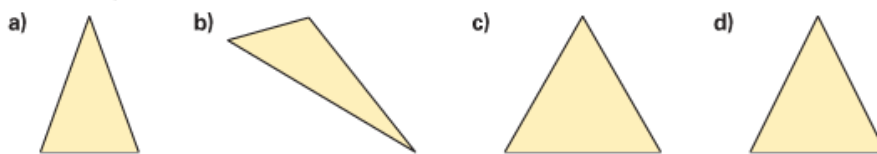
# Homework



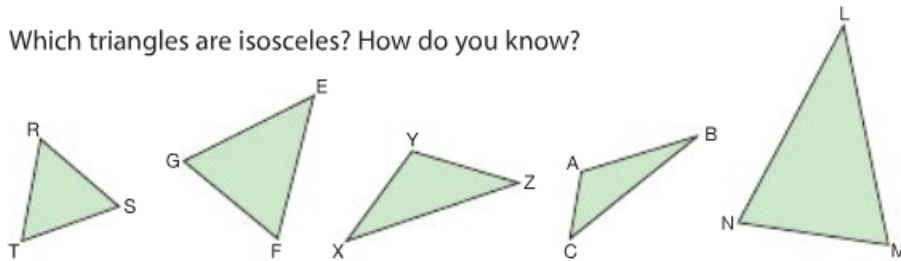


**Practice**

1. Name each triangle as isosceles, equilateral, or scalene.  
How did you decide which name to use?



2. a) Which triangles are isosceles? How do you know?



- b) For each isosceles triangle, name the sides that have the same length, and the angles that have the same measure.  
c) Which triangle is equilateral? How do you know?  
d) Which triangle is not isosceles and not equilateral?  
Which type of triangle is it?

7. Identify each triangle as equilateral, isosceles, or scalene.  
Which strategy did you use?



