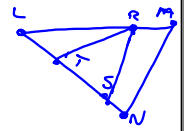
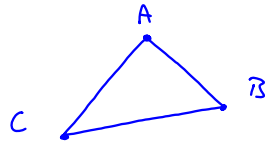


# 9.4 Classifying Triangles

Triangle

↳ Closed figure on a plane (2-D shape)

↳ 3 points that are connected by three segments so that each segment connects two points at its endpoints



Need a way to know it's a triangle and which one

△ABC any order works

△LMN

△RST

## Classify (2 ways)

Angles (measure)

3 acute ∠'s



Acute

Exactly 1 right angle



Right

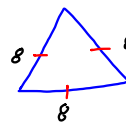
Exactly 1 obtuse angle



Obtuse

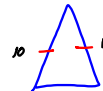
## Sides (equal length)

Equilateral  
Equal lateral (side)

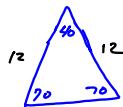
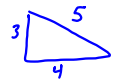


- tick mark

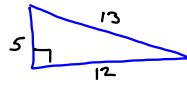
Isosceles  
At least 2 Sides are equal



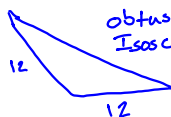
Scalene  
No sides are equal



Acute Isosceles



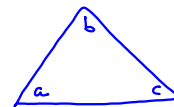
Right Scalene



obtuse Isosceles



Acute Equilateral



$$m\angle a + m\angle b + m\angle c = 180^\circ$$

$$m\angle a = (\text{measure of angle } a)$$

Do these angles make  
a triangle

$$58 + 64 + 58 = 180^\circ$$

$$72 + 58 + 60 = 190^\circ \text{ Not a } \Delta$$

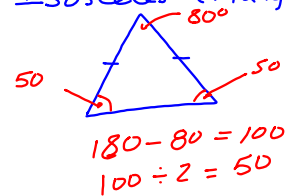
Find the missing angle

$$72 + 58 + x = 180$$

$$130 + x = 180$$

$$\begin{array}{r} 130 + x = 180 \\ -130 \quad -130 \\ \hline x = 50 \end{array}$$

Isosceles triangle



473-475

2-44 even