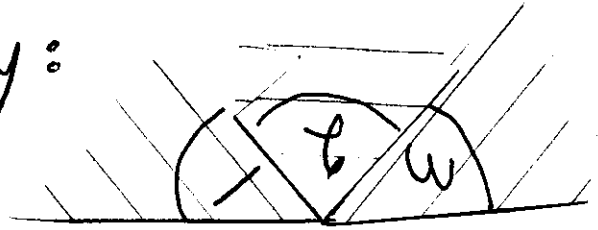
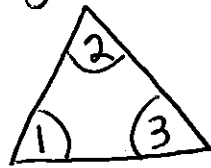


3-4 Parallel Lines and the Triangle Sum Theorem

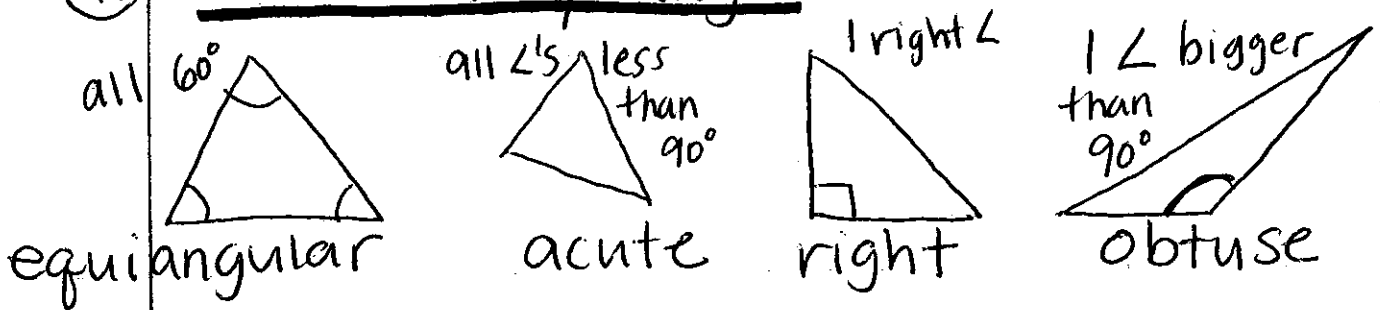
Triangle Activity:



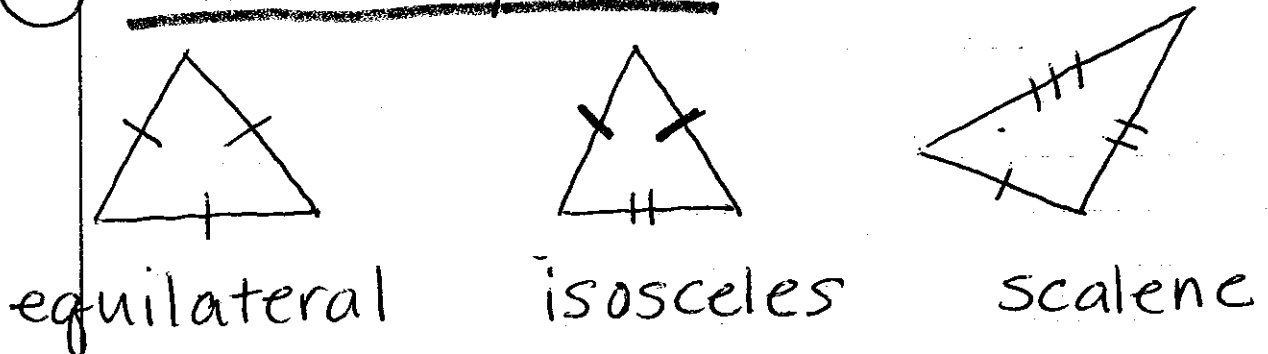
The sum of the \angle 's in a $\Delta = 180^\circ$

Types of Triangles:

① Classified by Angles



② Classified by Sides



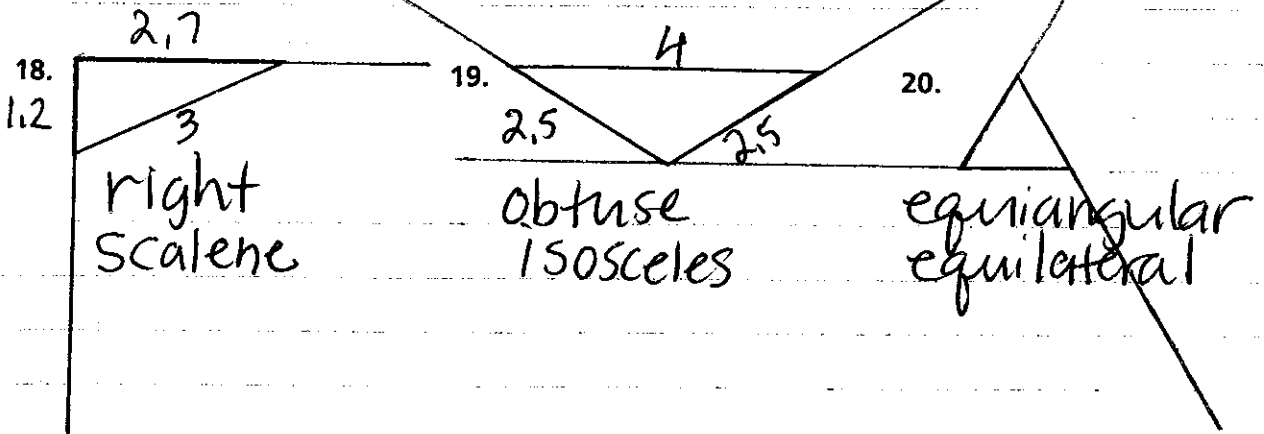
16. The sides of a triangle are 10 cm, 8 cm, and 10 cm. Classify the triangle.

isosceles

17. The angles of a triangle are 44° , 110° , and 26° . Classify the triangle.

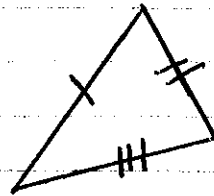
obtuse

Use a protractor and a centimeter ruler to measure the angles and the sides of each triangle. Classify each triangle by its angles and sides.

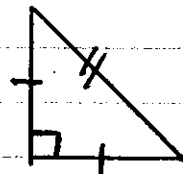


Draw and mark a triangle to fit each description. If no triangle can be drawn, write not possible and explain why.

A. acute scalene

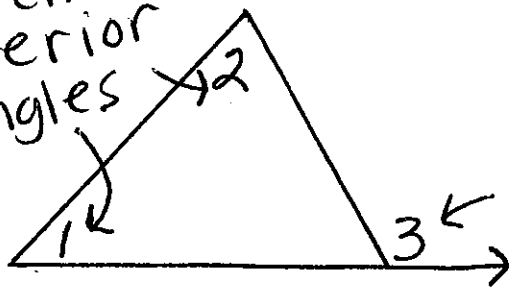


B. isosceles right



C. obtuse equiangular not possible
 obtuse means \angle bigger than 90° , + equiangular means all \angle 's = 60°

remote interior angles



Exterior \angle of a Δ

Triangle Exterior \angle Thm

The measure of each exterior \angle of a Δ equals the sum of the measures of its 2 remote interior \angle 's.

$$m\angle 3 = m\angle 1 + m\angle 2$$

Find the value of each variable.

1.
 $x = 60 + 65 = 125^\circ$

2.
 $p = 46 + 90 = 136^\circ$

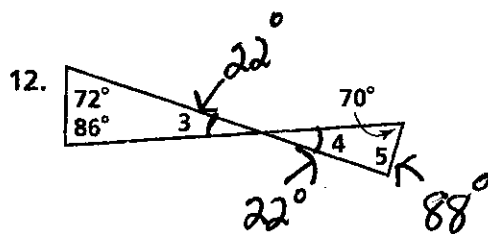
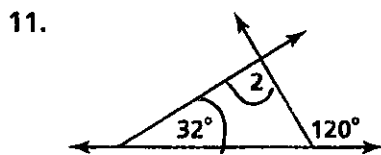
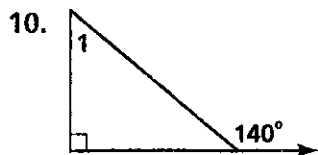
3.
 $n = 75 + 68 = 143^\circ$

7.
 $x = 180 - 90 - 55 = 35^\circ$
 $y = 180 - 35 = 145^\circ$
 $z = 180 - 65 - 90 = 25^\circ$
 or $180 - 10 - 145 = 25^\circ$

8.
 $a = 55^\circ$
 $b = 97^\circ$
 $c = 83^\circ$

9.
 $w = 25^\circ$
 $v = 25^\circ$
 $t = 56^\circ$

Find the measure of each numbered angle.



$\angle 2 = 120 - 32 = 88^\circ$
 ext \angle remote int.

