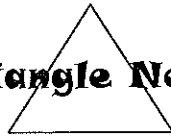


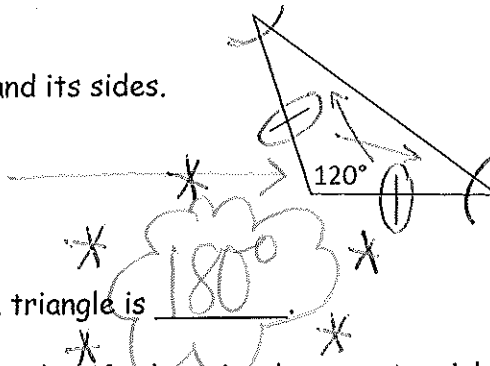
# Triangle Notes



What do you remember about classifying triangles?

Type of Triangle	Classified by Angles or Sides	Description
Acute	Angles	All angles are acute
Obtuse	Angles	① obtuse angle
scalene	Sides	No congruent sides * No congruent $\angle$ 's
right	Angles	1 right angle
Equilateral	Sides	All congruent sides All congruent $\angle$ 's.
Isosceles	sides	2 congruent sides 2 congruent $\angle$ 's.

Classify the triangle by its angles and its sides.

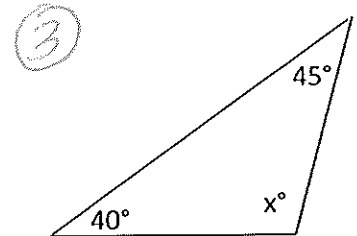
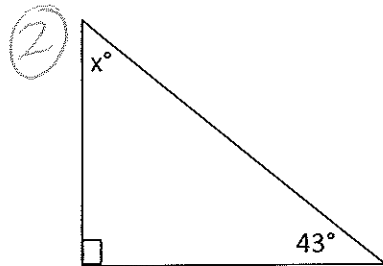
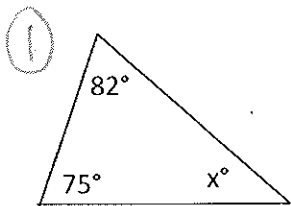


This triangle can be classified as

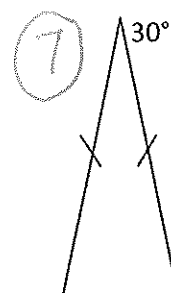
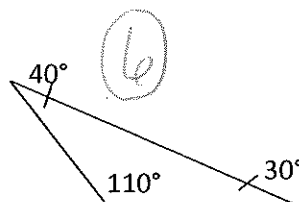
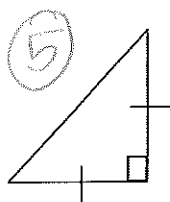
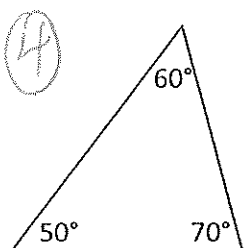
obtuse and isosceles.

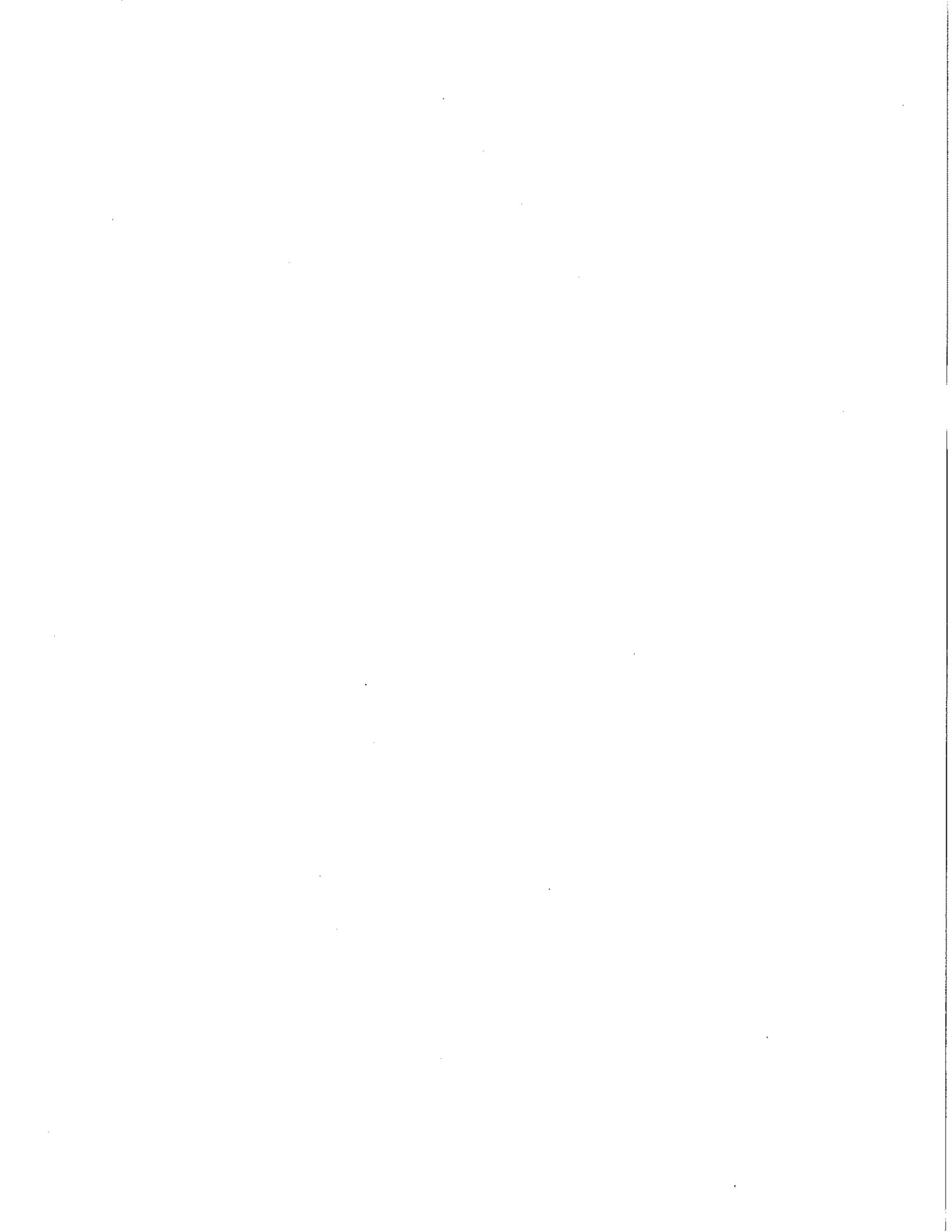
The sum of the interior angles of a triangle is 180.

Find the missing angle measure then classify the triangle as acute, right, or obtuse.



Classify each triangle by its angles and sides.





$$\textcircled{1} \quad 180^\circ = (82^\circ + 75^\circ) + x$$

$$180^\circ = 157^\circ + x$$

~~-157^\circ~~    ~~-157^\circ~~

$$23^\circ = x$$

ACUTE

$$\textcircled{2} \quad 180^\circ = (90^\circ + 43^\circ) + x$$

$$180^\circ = 133^\circ + x$$

~~-133^\circ~~    ~~-133^\circ~~

$$47^\circ = x$$

RIGHT

$$\textcircled{3} \quad 180^\circ = (45^\circ + 40^\circ) + x$$

$$180^\circ = 85^\circ + x$$

~~-85^\circ~~    ~~-85^\circ~~

$$95^\circ = x$$

OBTUSE

$\textcircled{4}$  S: scalene  
A: Acute

$\textcircled{5}$  S: isosceles  
A: Right

$$180^\circ = 90^\circ + (x + x)$$

$$180^\circ = 90^\circ + 2x$$

~~-90^\circ~~    ~~-90^\circ~~

$$\frac{90^\circ}{2} = \frac{2x}{2}$$

$$45^\circ = x$$

$\textcircled{6}$  S: scalene  
A: obtuse

$\textcircled{7}$  S: isosceles  
A: Acute

$$180^\circ = 30^\circ + (x + x)$$

$$180^\circ = 30^\circ + 2x$$

~~-30~~    ~~-30~~

$$\frac{150^\circ}{2} = \frac{2x}{2}$$

$$x = 75^\circ$$

$$\textcircled{1} \quad 180^\circ = 60^\circ + 60^\circ + x$$

$$\begin{array}{r} 180^\circ = 120^\circ + x \\ -120^\circ \quad -120^\circ \\ \hline 60^\circ = x \end{array}$$

$$\textcircled{2} \quad 180^\circ = 30^\circ + 30^\circ + x$$

$$\begin{array}{r} 180^\circ = 60^\circ + x \\ -60^\circ \quad -60^\circ \\ \hline 120^\circ = x \end{array}$$

$$\textcircled{9} \quad 180^\circ = 82^\circ + 43^\circ + x$$

$$\begin{array}{r} 180^\circ = 125^\circ + x \\ -125^\circ \quad -125^\circ \\ \hline 55^\circ = x \end{array}$$

$$\textcircled{10} \quad 180^\circ = 90^\circ + 25^\circ + x$$

$$\begin{array}{r} 180^\circ = 115^\circ + x \\ -115^\circ \quad -115^\circ \\ \hline 70^\circ = x \end{array}$$

$$\textcircled{11} \quad 180^\circ = 70^\circ + 45^\circ + x$$

$$\begin{array}{r} 180^\circ = 115^\circ + x \\ -115^\circ \quad -115^\circ \\ \hline 65^\circ = x \end{array}$$

$$\textcircled{12} \quad 180^\circ = 24^\circ + 38^\circ + x$$

$$\begin{array}{r} 180^\circ = 62^\circ + x \\ -62^\circ \quad -62^\circ \\ \hline 118^\circ = x \end{array}$$