



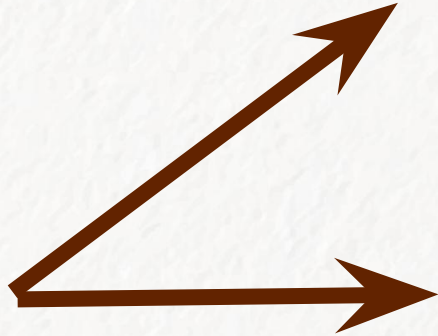
# Cingles

The Philomath Club



# What are angles?

The space between two lines



# Types of Angles



Right

Obtuse

Acute



1

2

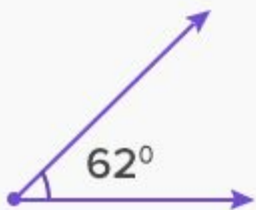
3

4

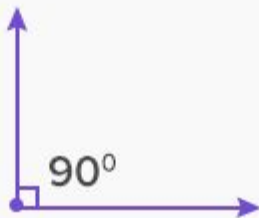
5

6





Acute angle



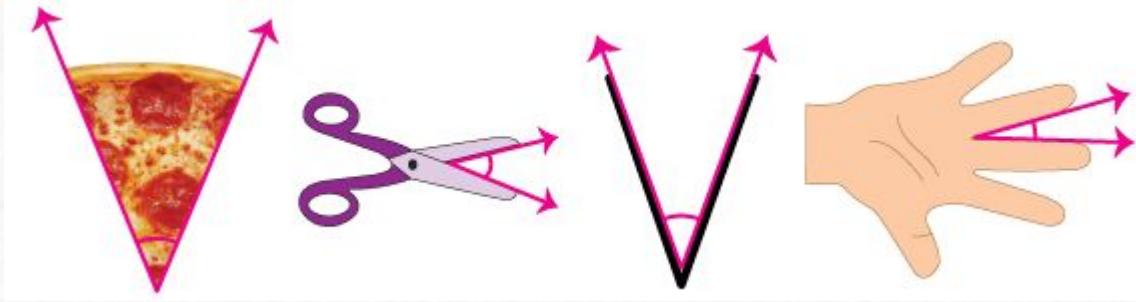
Right angle



Obtuse angle



# Angles in Real Life





Game!

Cute, Obtuse,  
or Right?



1

2

3

4

5

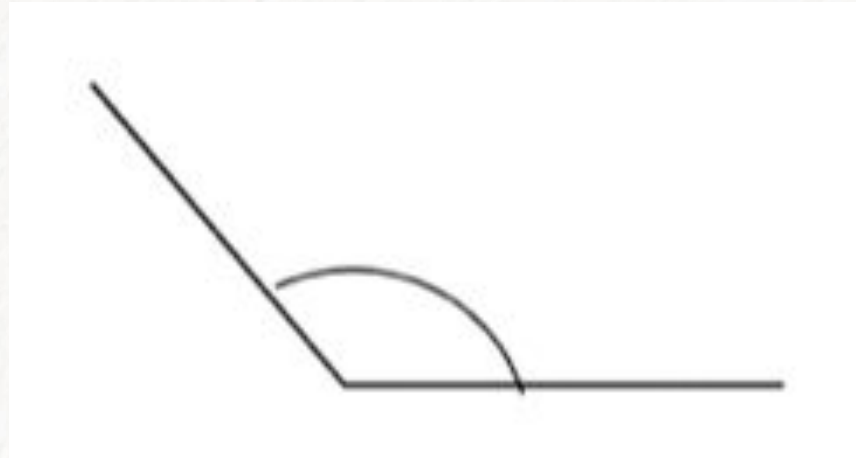
6



# Acute, Obtuse, or Right?

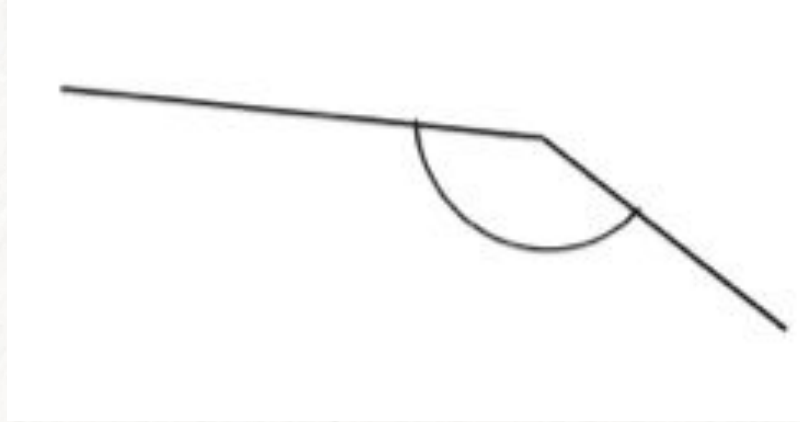


# Acute, Obtuse, or Right?

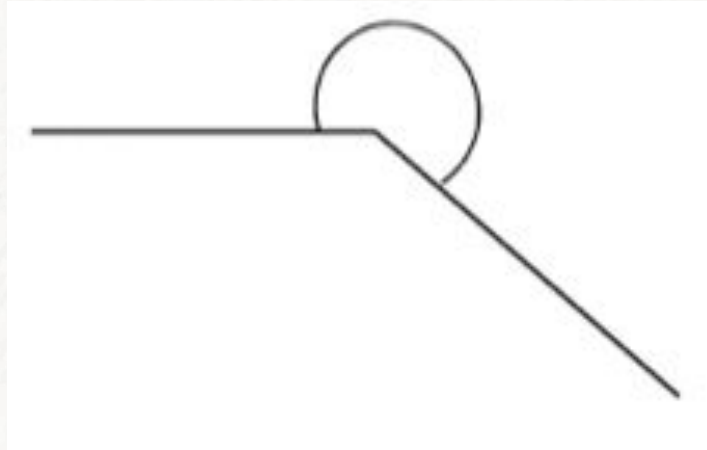




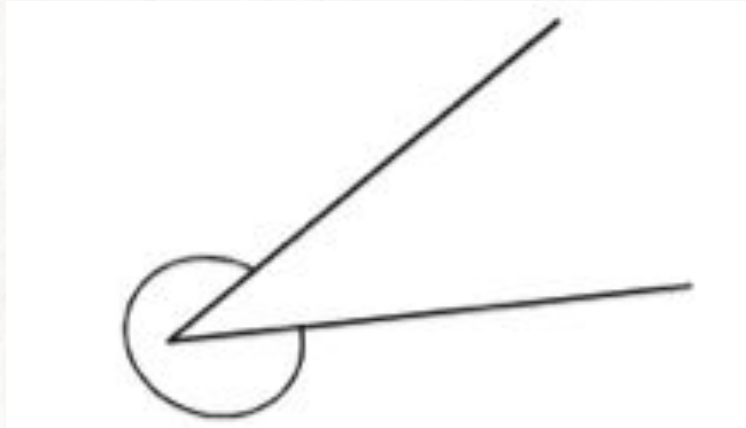
# Acute, Obtuse, or Right?



# Acute, Obtuse, or Right?



# Acute, Obtuse, or Right?





How many degrees is a straight line?



Ans: 180





How many degrees in a full rotation?



Ans: 360





# Triangles

What are the angle measures of triangles?

1

2

3

4

5

6



# Drawing time!



-Draw a triangle

-Then turn it into something else

-a Christmas tree?

-a slice of pizza?





## Triangle angles add to 180 degrees

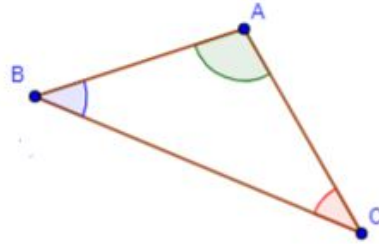
If a triangle has two angles of measure 60 and 10 degrees, what is the measure of the last angle?







## Sum of Angles in a Triangle



$$\angle A + \angle B + \angle C = 180^\circ$$

The sum of the angles in a triangle  
is always  $180^\circ$



# Breakout Rooms



1

2

3

4

5

6



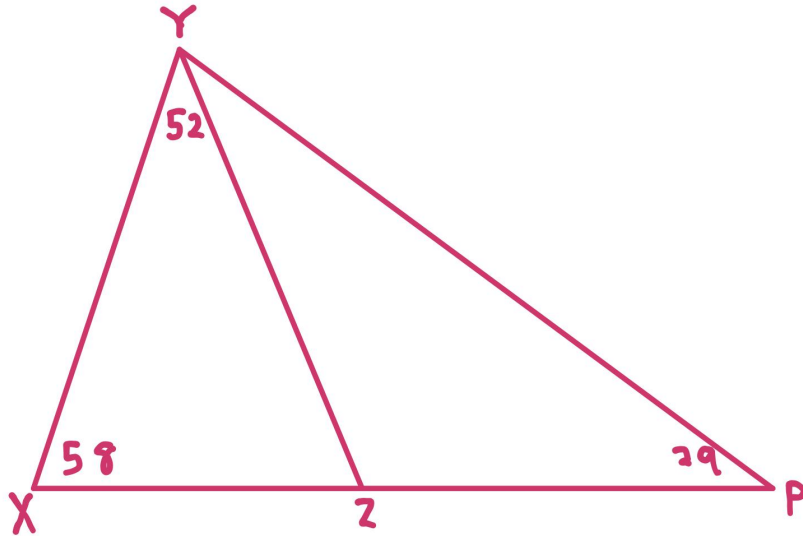


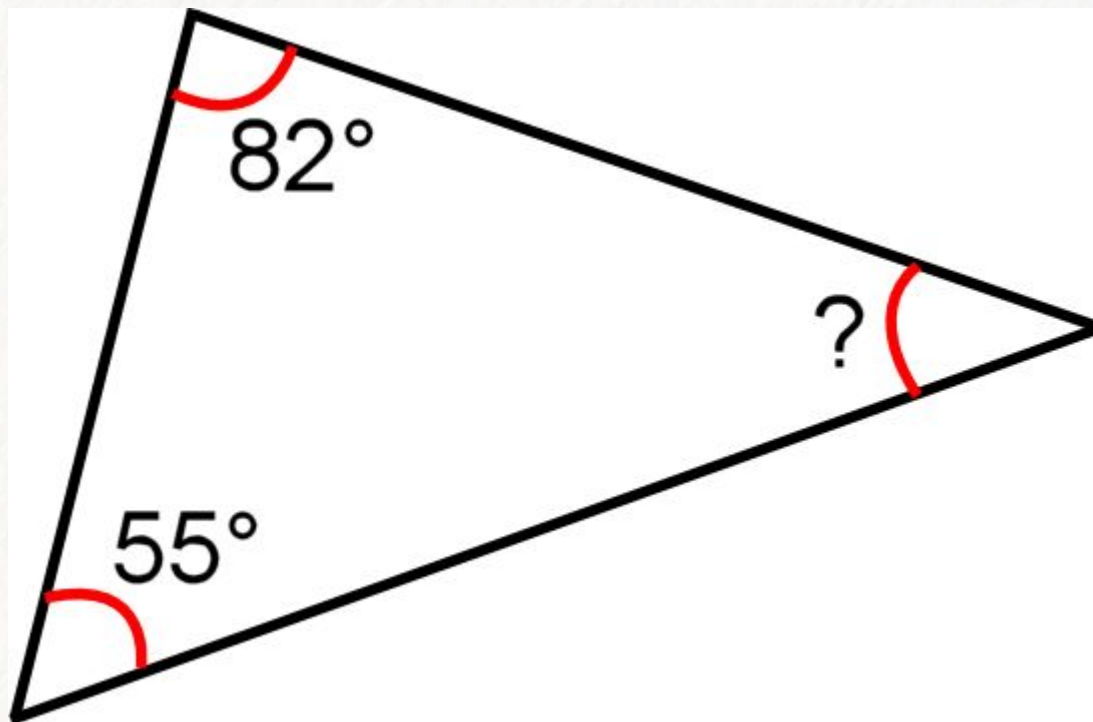
One angle in the triangle is twice another angle, and the third angle is 54. What is the measure of the smallest angle in the triangle?



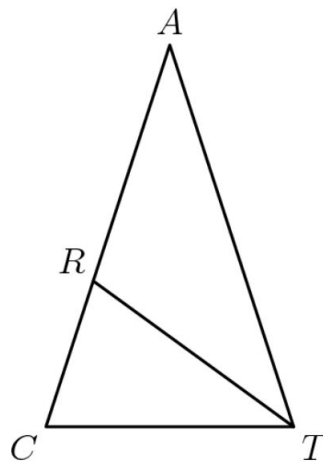


Find angle ZYP





In triangle  $CAT$ , we have  $\angle ACT = \angle ATC$  and  $\angle CAT = 36^\circ$ . If  $\overline{TR}$  bisects  $\angle ATC$ , then  $\angle CRT =$



- (A)  $36^\circ$     (B)  $54^\circ$     (C)  $72^\circ$     (D)  $90^\circ$     (E)  $108^\circ$

1

2

3

4

5

6

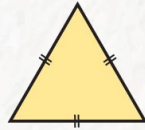


# Types of Triangles

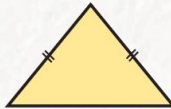
## Classification of Triangles



### By Side



**Equilateral Triangle**  
has three equal sides



**Isosceles Triangle**  
has two equal sides



**Scalene Triangle**  
has no equal sides

### By Angle



**Acute Triangle**  
has three angles  $< 90^\circ$



**Right Triangle**  
has one angle =  $90^\circ$



**Obtuse Triangle**  
has one angle  $> 90^\circ$



1

2

3

4

5

6



# Area of a triangle



1

2

3

4

5

6







The degree measure of angle  $A$  is

## Challenge Question

