



## Year 4 Angles

### What is an angle?

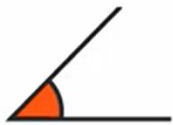
An angle is the space between two lines that meet each other. When two lines meet at a point, an angle is formed. The two lines are called the arms of the angle.

To measure the size of an angle, we use degree. Degree is a standard unit and is denoted by the symbol  $^{\circ}$ .

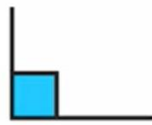


An angle

# Types of Angles



**ACUTE ANGLE**  
Less than  $90^{\circ}$



**RIGHT ANGLE**  
Exact  $90^{\circ}$



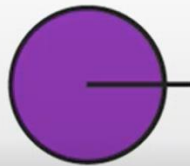
**OBTUSE ANGLE**  
Greater than  $90^{\circ}$   
and less than  $180^{\circ}$



**STRAIGHT ANGLE**  
Exact  $180^{\circ}$

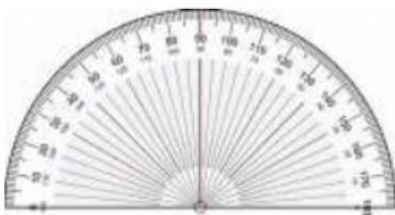


**REFLEX ANGLE**  
Greater than  $180^{\circ}$



**FULL ANGLE**  
Exact  $360^{\circ}$

### How are angles measured?



People usually use a protractor to measure and draw angles. Sometimes, people use an angle ruler or a  $360^{\circ}$  protractor to measure angles.



## Angles in a triangle

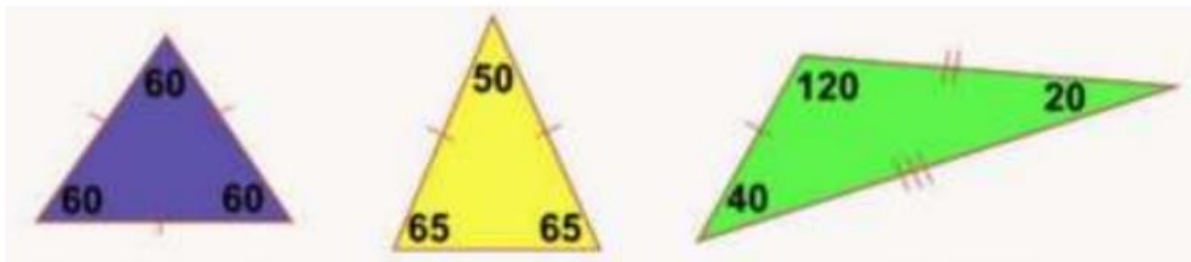
By internal angles



A right triangle (or right-angles triangle) has one of its interior angles measuring  $90^\circ$  (a right angle).

Triangles that do not have an angle measuring  $90^\circ$  are called oblique triangles.

A triangle with all interior angles measuring less than  $90^\circ$  is an acute triangle or acute-angled triangle.



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

## Angles in life

Angles are used in daily life. Engineers and architects use angles for designs, rods, buildings and sporting facilities. Athletes use angles to enhance their performance. Carpenters use angles to make chairs, tables and sofas. Artists use their knowledge of angles to sketch portraits and paintings. Are you looking to apply what you learn in the classroom to the real world? Trigonometry is a subject that has lots of practical applications. Whether you want to measure how tall a mountain is, navigate the globe or find the distance between stars and planets, learning about this method is useful in many different careers.

Example questions:

1. What is an angle?
2. What are angles measured in?
3. Name 5 different types of angles and describe them.
4. How are angles measured?
5. What is the sum of the angles in a quadrilateral?
6. How are angles used in daily life?



## Element 2

Explore and identify any acute, obtuse or right angles in the flags below.



1. How many things can you see in the room that have angles?
2. What angles can you see in the playground equipment? Take a photo and label it or draw it yourself?
3. List or draw where you find angles in sport.
4. If reflex angle is the answer, what are 5 questions?