TYPES OF ANGLES

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What is an angle?

An angle is the figure formed by two rays sharing a common endpoint, called the vertex of the angle.

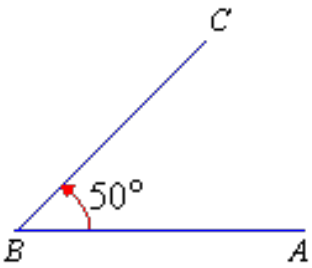
We can classify angles according to their size and position.

Angles according to their size

The following are the types of angles according to their size:
1. Acute Angle
2. Obtuse Angle
3. Right Angle
4. Straight Angle
5. Reflex Angle
6. Revolution
7. Complementary Angles
8. Supplementary Angles

Let’s discuss each of the angles in detail:

Acute Angle

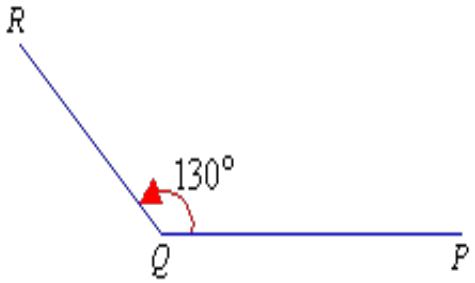


If an angle is greater than 0 degree but less than 90 degrees, then we call that angle as acute angle.

The following is an acute angle.

Example: 30 degrees, 70 degrees etc. are acute angle

Obtuse Angle

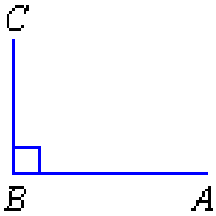


An angle whose measure is greater than 90 degrees but less than 180 degrees is called an obtuse angle.

Thus, it is between 90 degrees and 180 degrees. The following is anobtuse angle.

Example: 150 degrees, 120 degrees etc.

Right Angle

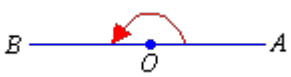


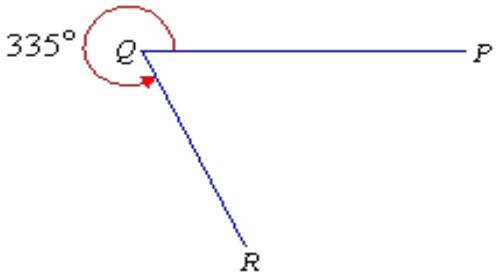
An angle whose measure is 90 degrees is called a right angle.

A right angle is marked on the diagram as a small square.

Straight angle

An angle whose measure is 180 degrees. A straight angle looks like a straight line.

The following is astraight angle. 



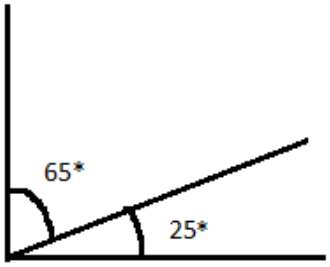
Reflex angle

An angle whose measure is greater than 180 degrees but less than 360 degrees.

The following is a reflex angle.

Revolution

A revolution is an angle that equals exactly 360º. 

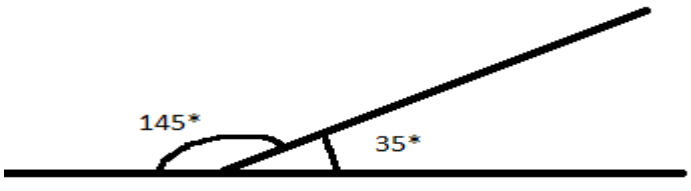
Complementary an  gles

If sum of two angles are 90 degree then they are complementary angles.

For example: Angle measure of 65° and 25° are complementary angles.

As, 65 + 25 = 90°

But angle 65 and angle 25 do not have to be adjacent to be complementary as long as they add up to 90 degrees.

Supplementary angles 

If sum of two angles are 180 degree then they are supplementary angles.

Angle measure of 145° and 35° are supplementary angles.

As, 145 + 35= 180

Try This:

1. What is the measure of a right angle?
2. Name the following angles:

a) 160 degrees

b) 75 degrees

c) Sum of angles 110 and 70

Answers

1. 90 degree angle
2. a) Obtuse angle

   b) Acute angle

   c) Supplementary angles

Angles according to their position

The following are the types of angles according to their position:

1. Adjacent Angles
2. Vertically opposite Angles
3. Angles between parallel lines:

3. (a) Interior Angles

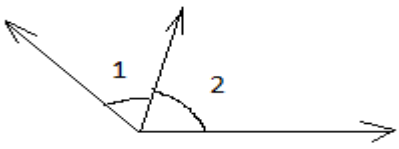
3. (b) Exterior Angles

3. (c) Alternate Interior Angles

3. (d) Alternate Exterior Angles

3. (e) Corresponding Angles

Let’s discuss each of them in detail:

Adjacent Angle 

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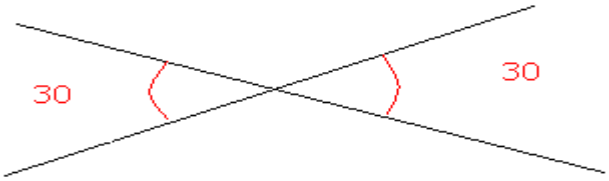
Angle with a common vertex and one common side.

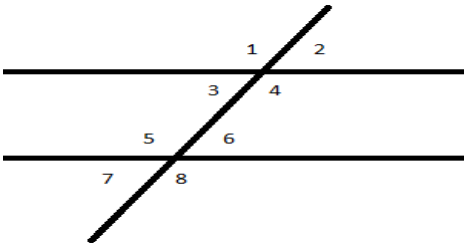
In the following figure ? 1 and ? 2, areadjacent angles.

Vertically Opposite Angles



Angles that have a common vertex and whose sides are formed by the same lines. Vertically Opposite angles are always equal.

The following figure representsvertically opposite angles.

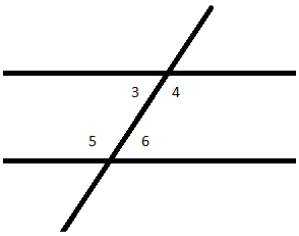


Angle formed by Parallel lines

When two parallel lines are crossed by a third line (Transversal), 8angles are formed.

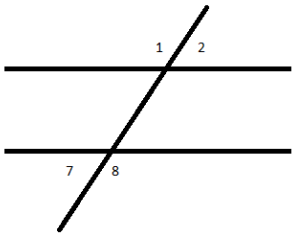
Take a look at the following figure

We will now discuss the angles formed by the parallel lines:



Interior Angles

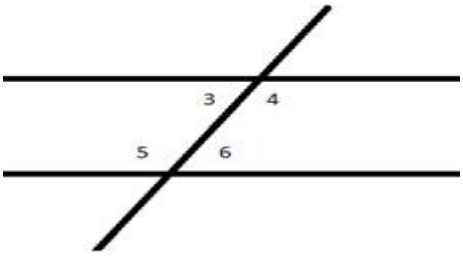
In the adjoining figure, ?3, ?4, ?5, ?6 are interior angles.



Exterior Angles

In the adjoining figure, ?1, ?2, ?7, ?8 are exterior angles.

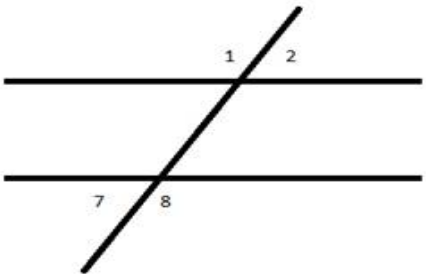
Alternate Interior Angles



Pairs of interior angles on opposite sides of the transversal are Alternate Interior Angles.

?3 and ?6are alternate interior angles.

?4 and ?5 are also alternate interior angles.



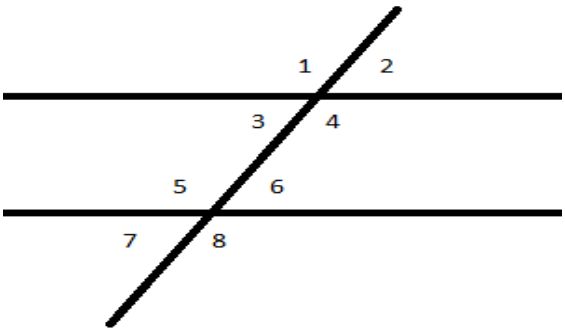
Alternate Exterior Angles

Pairs of exterior angles on opposite sides of the transversal.

?1 and ?8 are alternate exterior angles.

? 2 and ?7 are alternate exterior angles.

Corresponding angles



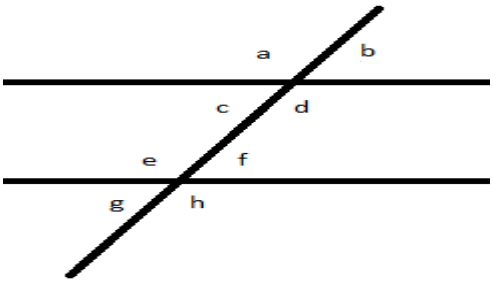
Pairs of angles in matching corners are called Corresponding Angles.

?1 and ?5 are corresponding angles.

?2 and ?6 are corresponding angles.

?3 and ?7 are corresponding angles

?4 and ?8 are corresponding angles.



Try this:

1. Write 1 pair of alternate exterior angle.
2. Write 1 pair of corresponding angle.

Answer:

1. ? a and ? h
2. ? b and ? f

Now try it yourself! Should you still need any help,click here to schedule live online session with e Tutor!

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Reference Links:

- http://en.wikipedia.org/wiki/Angle
- http://www.mathopenref.com/angleacute.html
- http://www.mathopenref.com/angleobtuse.html
- http://en.wikipedia.org/wiki/Right_angle
- http://www.mathopenref.com/anglestraight.html
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- http://en.wikipedia.org/wiki/Complementary_angles
- http://en.wikipedia.org/wiki/Supplementary_angles
- http://en.wikipedia.org/wiki/Adjacent_angle
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