



Median, bisector and the height of the triangle

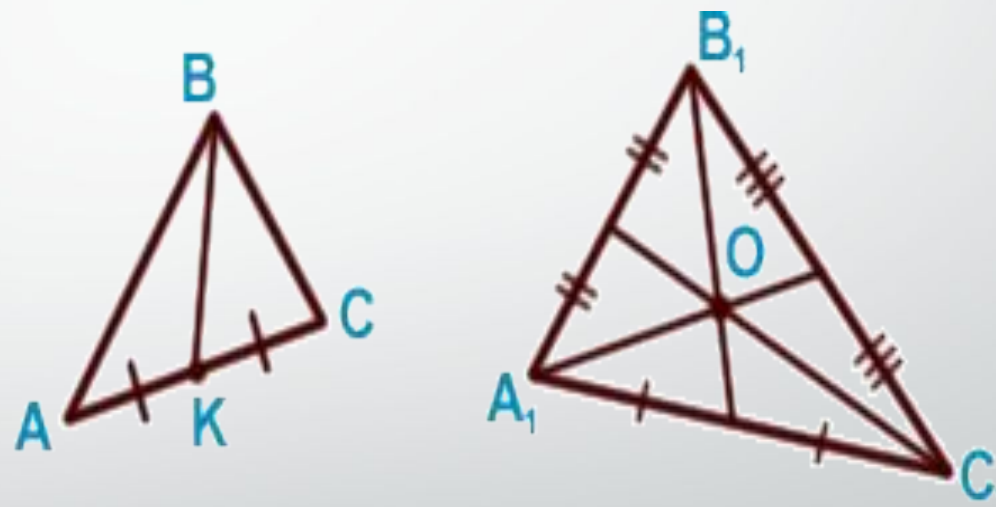
Goals lesson

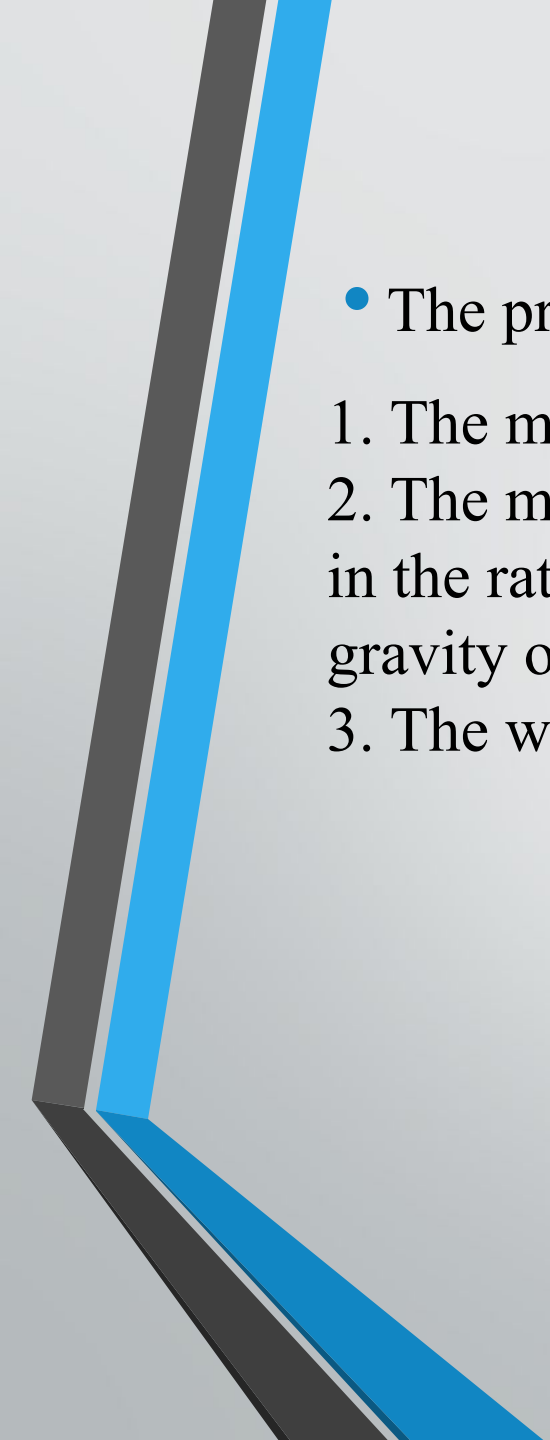
- Education: Introduction of new concepts heights, medians and bisectors of a triangle.
- Educational: to educate the ability to listen and hear.
- Developing: Develop a stable cognitive interest in the study of geometry

Plan lesson

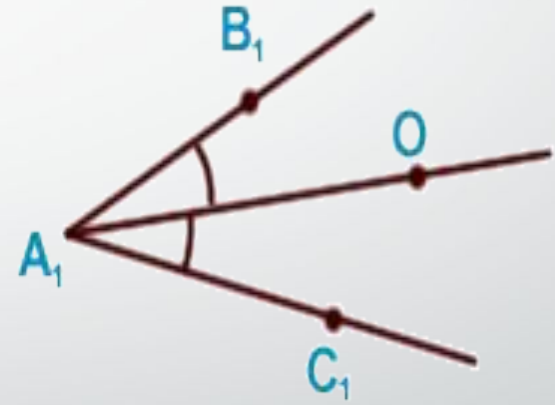
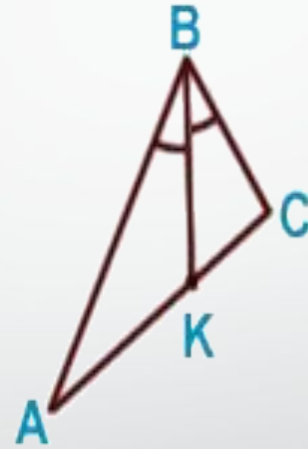
- 1) Greeting (2min)
- 2) Organizing time (3min)
- 3) To explain the new material (15min)
- 4) Work together with the teacher (15min)
- 5) Reflection (5min)
- 6) Give homework (2min)
- 7) Summarizing time (3min)

- The median of the triangle - the segment connecting the top with the middle of the triangle opposite side.
In any triangle, you can spend 3 median. All of them intersect at a single point, the center (center of gravity) of the triangle.
- $AK = KC$,
 BK - median $\triangle ABC$,
 O - center $\triangle A_1 B_1 C_1$.



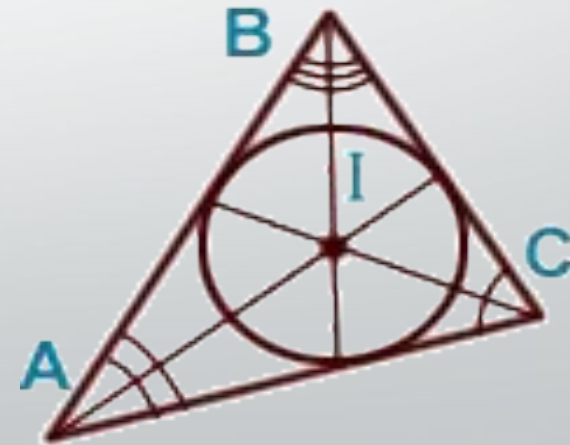
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- The properties of the medians of a triangle
 1. The median divides the triangle into two triangles of equal area.
 2. The medians of a triangle intersect at one point, which divides each of them in the ratio of 2:1, starting from the top. This point is called the center of gravity of the triangle.
 3. The whole triangle is divided into six their medians of equal triangles.

- The bisector of the triangle - the segment bisector angle of the triangle, connecting the apex of the triangle with the point on the opposite side. Please note that the bisector of the angle - a ray that divides the angle equal to two, and the bisector of the triangle - is cut, part of the beam, limited side of the triangle.
- BK - bisector $\triangle ABC$,
 A_1O - bisector $\angle C_1A_1B_1$



- Each triangle can be carried out three bisectors that intersect at a single point, usually denoted Latin letter **I**.

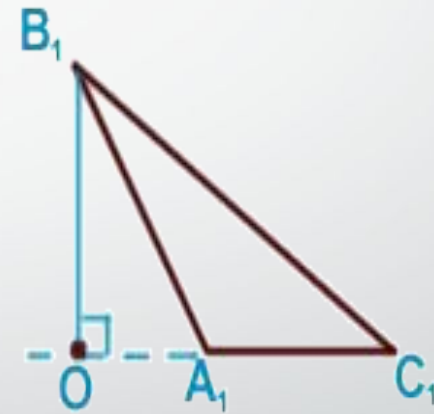
The point of intersection of the bisectors of the triangle (**I**) - Center the in circle.



- Properties triangle bisectors

1. The bisector of angle - a locus of points equidistant from the sides of the angle.
2. Bisector internal angle of a triangle divides the opposite side into segments proportional adjacent sides: $x / y = a / b$.
3. The point of intersection of the bisectors of the triangle is the center of a circle inscribed in the triangle.

- The height of the triangle - the perpendicular drawn from the vertex triangle to the line containing the opposite side.



For example:

Two triangles are equal to the angle of 58° and 72° . Find an obtuse angle, which form a triangle of height, coming out of the tops of these angles. Answer give degrees.

From the triangle ACH (angle H - straight) find the angle CAH. He is 18° .

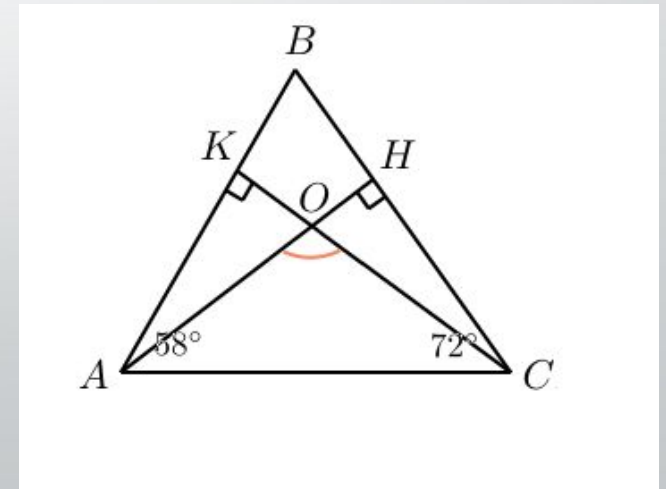
From the triangle ACK (K - line) find the angle ACK. He is 32° .

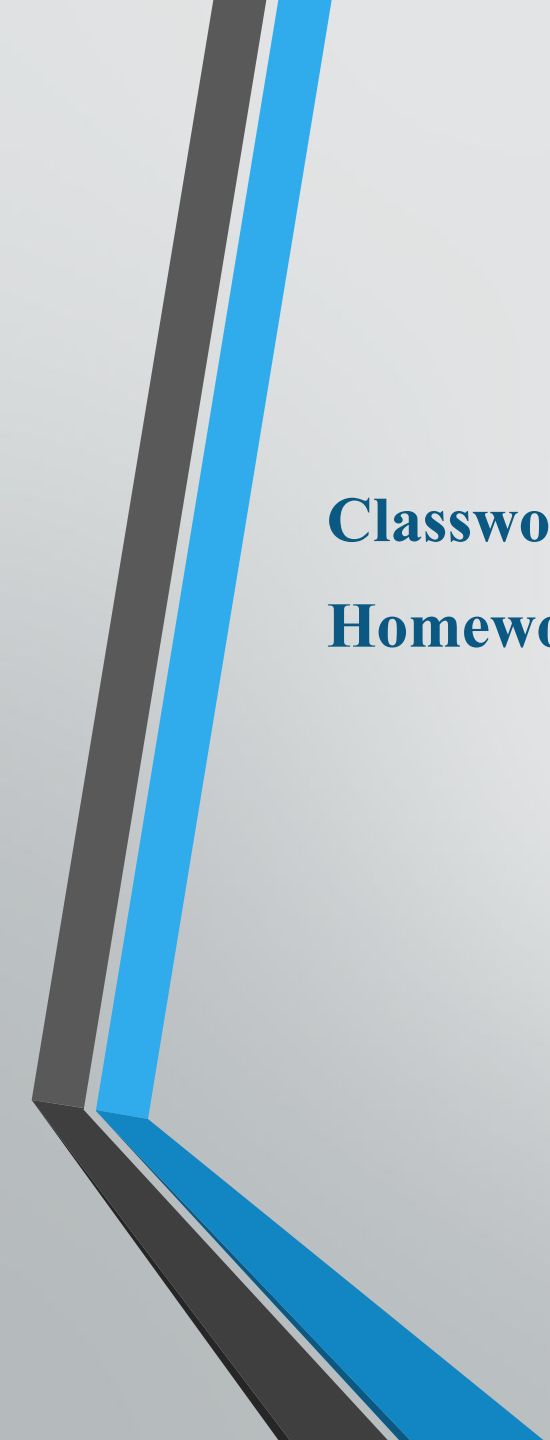
In a triangle AOC two angles are known. We find the third,

that is AOC, the angle which is obtuse angle between the height of the triangle ABC:

$$AOC = 180^\circ - 18^\circ - 32^\circ = 130^\circ$$

Answer: 130°





Classwork: p78 №18,19,20,21

Homework: p78 №22,23,24