		Fundamental Mathematics **Elementary Geometry**

Sum of the amplitudes of the internal angles of a triangle

➢ **How to calculate the sum of the amplitudes of internal angles of a triangle?**

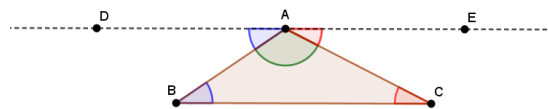Considering figure 1, let's answer the questions to, step by step, reach the conclusion.

Figure 1

- **Justify that the amplitude of angle BAD is equal to the amplitude of angle ABC.**

Because they are two internal alternate angles.

- **Is the amplitude of angle EAC equal to the amplitude of angle ACB? Why?**

Yes, the amplitude of angle EAC is equal to the amplitude of angle ACB. Because they are two internal alternate angles.

- **What can you conclude about the sum of the internal angles of a triangle?**

The sum of the amplitudes of angles BAD, BAC, and EAC is equal to 180º.

Since angles BAD and ABC have the same amplitude and so do angles EAC and ACB. Then the sum of the amplitudes of angles BAC, ACB and CBA (internal angles of the triangle) is equal to 180º.

To go further:

How do you calculate the sum of the amplitudes of the internal angles of other polygons?