

Module 11: Constructions

Topic 1 Content: Introduction to Constructions Transcript

Hi guys. Welcome to Geometry. In this topic, I'm going to introduce you to the compass, the straight edge, and how we use those tools to perform constructions in geometry. Are you ready to get started? Let's go.

Okay, now a compass is a tool that we use to accurately draw circles, arcs, lines, angles, and a lot of different types of figures. Now, in the compass that we're going to use today, it has a few different parts that I want to make sure you're familiar with. Now, you could use paper folding techniques or even computer software to perform constructions but what we're going to use is this type of compass.

Now, this tool right in the center, we use it to set the width of the radius of our circle. Now, let me show you what I mean by that. I'm going to slide this tool so that it stops at a measure of about 3 cm. There's a small plastic circle in here. You may not be able to see that, but what I'm going to do is go right in the center of that circle and draw the center of the circle that I'm going to use the compass to draw. I'm going to take my pen and just with a light hand, I'm going to do a complete circle with my compass. That's just kind of to give you a general idea of how we're going to be using the compass to perform many different types of constructions.

Now, instead of drawing full circles like I just showed you, more likely than not we're just going to draw arcs of circles. Let me show you what I mean by that just to give you a rough idea. I'm going to hold the part of my compass right here just to hold it steady. I'm just going to draw an arc. Just an arc of a circle. We're going to draw a lot of these and we're going to use the straight edge of our compass to perform a lot of different types of constructions in geometry.

Let me show you a little bit about the kind of constructions we're actually going to perform. Now, take for example this segment here, segment AB. You're going to learn how to construct a segment congruent to segment AB or even how to construct a perpendicular bisector of segment AB. Now, take angle C right down here. You'll learn how to construct an angle bisector and how to construct an angle congruent to angle C. You'll also learn by the end of all our lessons, you know how to take a complicated figure like this, where we have a triangle inscribed in a circle, and you'll learn how to construct, let's say, the angle bisector of angle E or even the perpendicular bisector of side EF. Now, that's just to give you an idea of all the different things you're going to be able to do with this compass.

All right, guys. You've reached the conclusion of this topic, which was just to introduce you to the compass and the straight edge and how we'll use those tools to perform many constructions in geometry. Bye.