Unit 5

5.1 Angles

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Preamble

Objective

Know what is an angle, and be able to create and work with it.

Definitions

- **Angle**: two rays which share a common point
- **ray**: a line extending indefinatly from a single point.
- **true bearing**: the angle created when you start at north, and work clockwise around the circle until you come to your angle (degrees)
- **angle measure**: a system of 360 degrees used to measure how much an angle is in relationship to other angles
- **angle referent**: common angle measurements (like 45, 90, etc.)
- **complementary**: angles that add up to 90 degrees
- **supplementary**: angles that add up to 180 degrees

Start

Intro

Angles are really important, and by the end of this you're going to speak their language. Angles speak in two dialects, degrees, and radians. Radians is a language used for higher level geometry and calculus, and is defined by pi, whereas degrees is separate from that.

Degrees is always in numbers, and that is the language we will be learning to speak.

Now I have 1 point on the board (boring). But lets says I have another point (now we're in the 1st dimension, or rather, this is as far as we can move in the first dimension, back and forth on this line.

But now we add a third point, and things go wild. What do we have here? We have now entered the 2nd dimension (yea!). This now leads to some crazy things. Look at this, we can now connect all three to make our very first shape!

But more then that, we now have three angles that are created. (definition of angle)

For now I'm going to tell you that we devide a circle (because circles are really cool, and serve as the base for all our measurements in degrees) into 360 parts. Each part we call one degree. As you can see, if we take 360 and divide by half, we have 180 (whis is defined to be a straight line). If we do that again, we have 90 degrees, which is a straight corner.

[Activity on pg. 175]

These angles are extremely helpful when working with maps and trying to figure how to how get somewhere. This also is a precursor to vectors in calculus.

[Google maps]

Example 1

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Example 2

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Example 3

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End

Assignment

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