Unit 7

7.(2,3,4) Trig Laws

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Preamble

Objective

Understand and apply the Sine, Cosine, and Tangent Law.

Definitions

- **sine**: the sine of an angle is equal to the ratio of SOH (opposite over hypotenuse)
- **cosine**: the cosine of an angle is equal to the ratio of CAH (adjacent over hypotenuse)
- **tangent**: the sine of an angle is equal to the ratio of TOA (opposite over adjacent)

Start

Intro

When we know angles of a triangle, we can use that information to determine the relationship each of the sides has with the others. In a right triangle, we have something called sine, cosine, and tangent, and these three laws are functions that can tell us the angle in a triangle given two sides and the ratios between them.

For example, observe this right triangle [on board]. I could put 3 measurements, and using these laws I could figure out what each of them is. For now you won't understand exactly why this works the way it does (I'm not even sure how these work on a fundamental level), but we do know they work, so here it goes.

SOH CAH TOA (repeat + repeat)

This the memory aid I have used over and over again to remember how to use these rules.

so to recap, we have sin [angle] = the rules for sin (SOH), so we find the ratio of opposite over hypotenuse.

Example 1

pg. 288: 2

Example 2

pg. 297: 3

Example 3

pg. 304: 2

End

Assignment

pg. 290: 7 - 8 pg. 290: 4 - 5 pg. 306: 8