A Lazy Precalculus Refresher

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As I'm working through Spivak Calculus I'm discovering there is a ton of high school math I've forgotten (or simply never learned). The purpose of these notes is to relearn the necessary prerequisites as quickly as possible.

For these notes I pull in material "lazily". There is no predefined set of topics; nothing that "should" or "shouldn't" be a part of precalculus. I don't want to go through a 500 page book or take a year long class, so when I need to know something to get through Spivak's chapter but don't already know it, it goes into these notes.
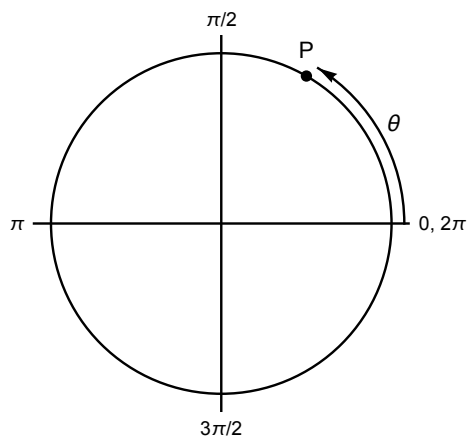
When I do need to (re-)learn a topic, I'm mostly pulling material from "Paul's Online Notes" excellent Algebra Trig Review. He definitely nails the topic list– the stuff his calculus students forgot (or never learned) lines up really well with what I need.

Contents

1 Trigonometry

Let P be a point on a unit circle $x^2 + y^2 = 1$. Let θ be the distance from $(1,0)$ to P measured counterclockwise along the circle. Then the coordinates of P are $(\cos\theta, \sin\theta)$.[1]

Recall the circumference of a circle is $C = 2\pi r$, and so the circumference of a unit circle is 2π. Thus π represents $180°$.

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[1]The order is easy to remember– it's alphabetical.