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Week 8 - Class 3

November 3, 2014

Question 1

Consider the following statements about the x-intercepts of the trigonometric functions:

I. $sec(x)$ has no x-intercept.

II. $tan(x)$ has x-intercept only at $x = 0, \pi$ and 2π.

III. $cot(x)$ has x-intercepts at $x = \pi/2 + k\pi$, for an integer k.

IV. $tan(x)$ does not have an x-intercept at $x = 0$.

Which of them are correct?

A only III

B I and III

C I, II and III

D II and III

E II and IV

Question 2

Consider the following statements about the y-intercepts of the trigonometric functions:

I. $tan(x)$ has a y-intercept only at $y = 0$.

II. $cot(x)$ has a y-intercept only at $y = 0$.

III. $sec(x)$ has a y-intercept at $y = 1$.

IV. $cot(x)$ does not cross the y-axis.

V. $tan(x)$ has y-intercepts at $\pi/2 + k\pi$, for an integer k.

Which of them are correct?

A II and III

B I and III

C IV and V

D I, III, IV

E III and IV

Question 3

What is $cos(\alpha)$ if $sin(\alpha) = \sqrt{3}/2$?

A $\sqrt{3}/2$

B $1/2$

C $1/2$ or $-1/2$

D $\sqrt{2}/2$

E This unit circle business still makes no sense to me.