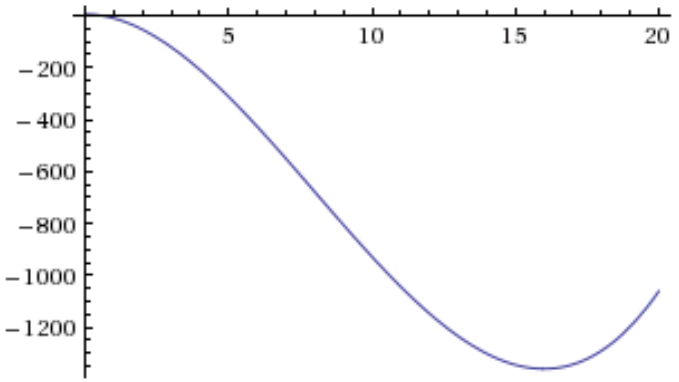
Hello, and welcome to NetTutor! How can I help you today?

Hi, I need help finding the positive x-coordinate when a function's slope is zero...

Sure, I'd be happy to help with that. First, can you show me what function you're working with?

Thank you for that information. Do yoou have any initial thoughts on how to go about this one?

I graphed the function and got this...



The graph become flat around x = 16
I think the answer is 16, but I need to use derivatives to find the answer

The slope does equal zero where the graph of the function becomes flat.

Are you able to find the derivative function?

I think it's this. But I don't know where to go from here...

Well, the derivative tells you how the value of y changes when you change x by a really small amount.

If we are on the flat part of the graph, how does the value of y change when we change x by a really small amount?

It doesn't change.... ?

Right. ☺ So if the derivative equals that change in y, then the derivative must equal what?

Oh... zero! So I just set

and solve for x?

Exactly!

I think I got it now... thanks!

You're welcome! Remember that you can always check your answer by making sure it is consistent with the graph.

If you have any other question, make sure to come back. Thank you for using NetTutor!

ok, bye!