Plot polynomial curve in ggplot using equation, not data points [duplicate]

This question already has an answer here:
Equivalent of curve() for ggplot *2 answers*

Is there a way to plot a polynomial function in ggplot without having to plot a datafame that contains selected points along the curve of interest? Say the equation is x^3 + x^2 + x + 5. I thought this could be done much in the same way that geom_abline can be used to add a straight line to a plot but am so far having no luck finding a way to do this. I checked the ggplot2 documentation but didn't see anything there I thought would help. geom_abline doesn't seem to extend past straight lines.

My end goal is to plot data from an independent dataset and use this polynomial curve as a "reference standard". The code below effectively plots the curve of interest but does so by plotting values along the curve, not by using the equation directly.

```
x <- 1:100
y <- x^3+x^2+x+5
dat <- as.data.frame(x,y)
ggplot(dat, aes(x,y)) + geom_point()
```

r ggplot2

edited Apr 22 '15 at 19:48

asked Apr 22 '15 at 19:42

tsurudak
383 2 12

marked as duplicate by Ben Bolker r Apr 22 '15 at 20:27

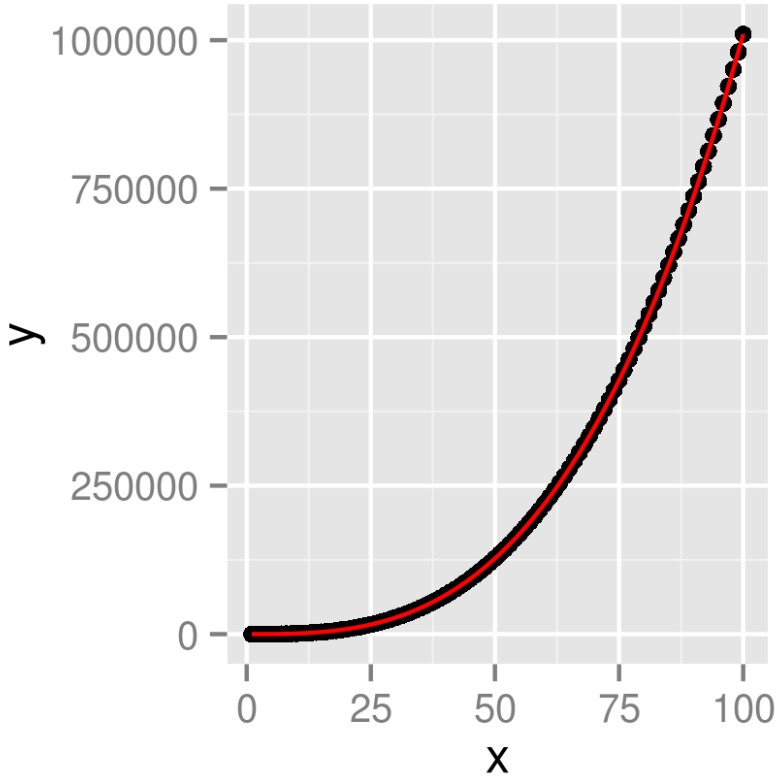
This question has been asked before and already has an answer. If those answers do not fully address your question, please ask a new question.

Further details to Bes n's answer can be found at this SO post. stackoverflow.com/questions/5177846/… – r.bot Apr 22 '15 at 20:05

1 Answer

You're looking for `stat_function()` , I think:

```
x <- 1:100
dat <- data.frame(x,y=x^3+x^2+x+5)
f <- function(x) x^3+x^2+x+5
ggplot(dat, aes(x,y)) +
    geom_point()+
    stat_function(fun=f, colour="red")
```



answered Apr 22 '15 at 20:03

Ben Bolker
100k 6 144 233

Thank you! That's exactly what I was looking for :) – tsurudak Apr 22 '15 at 20:10