S670 Problem set 3

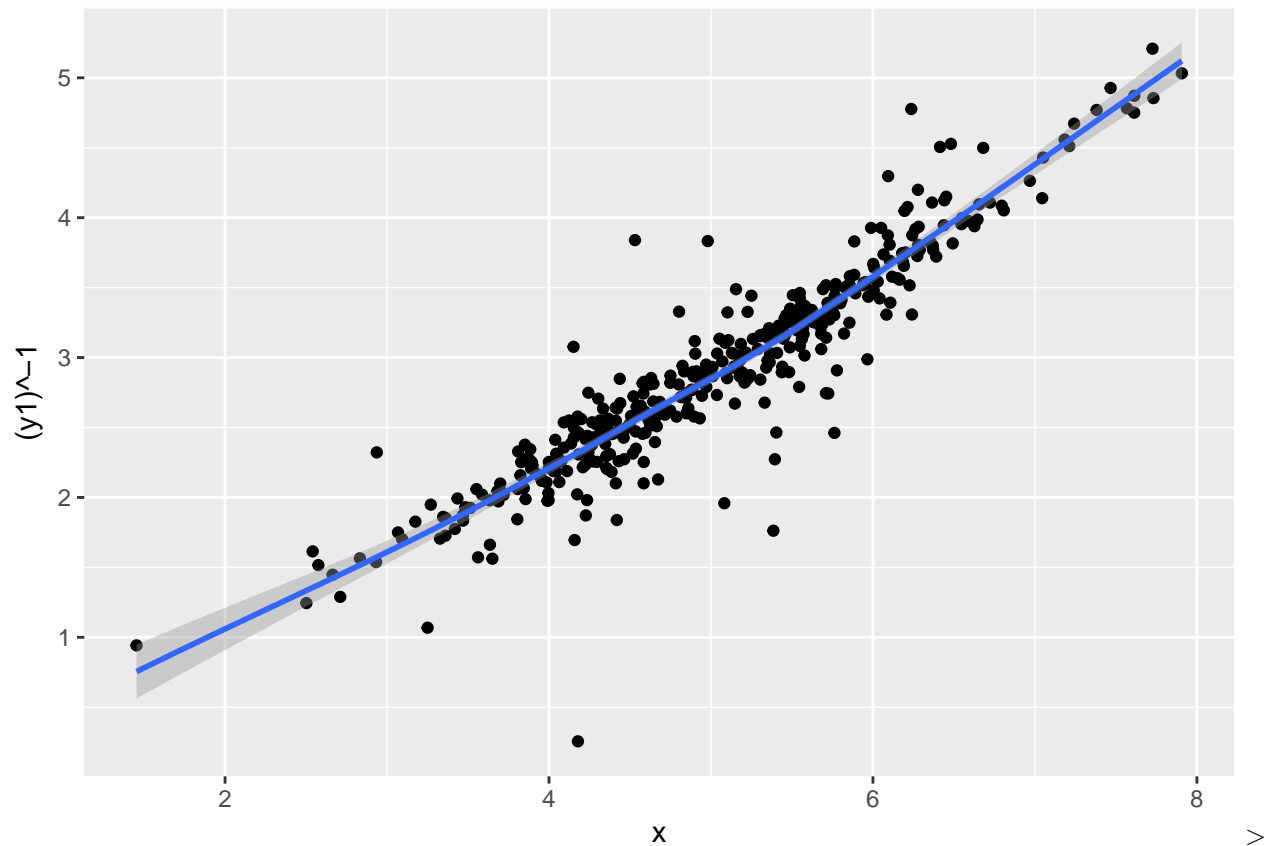*Erik*

February 2, 2017

1.

```
plot1 <- ggplot(problemset3, aes(x = x, y = (y1)^-1)) + geom_point() + geom_smooth(method.args=list(deg
plot1
```

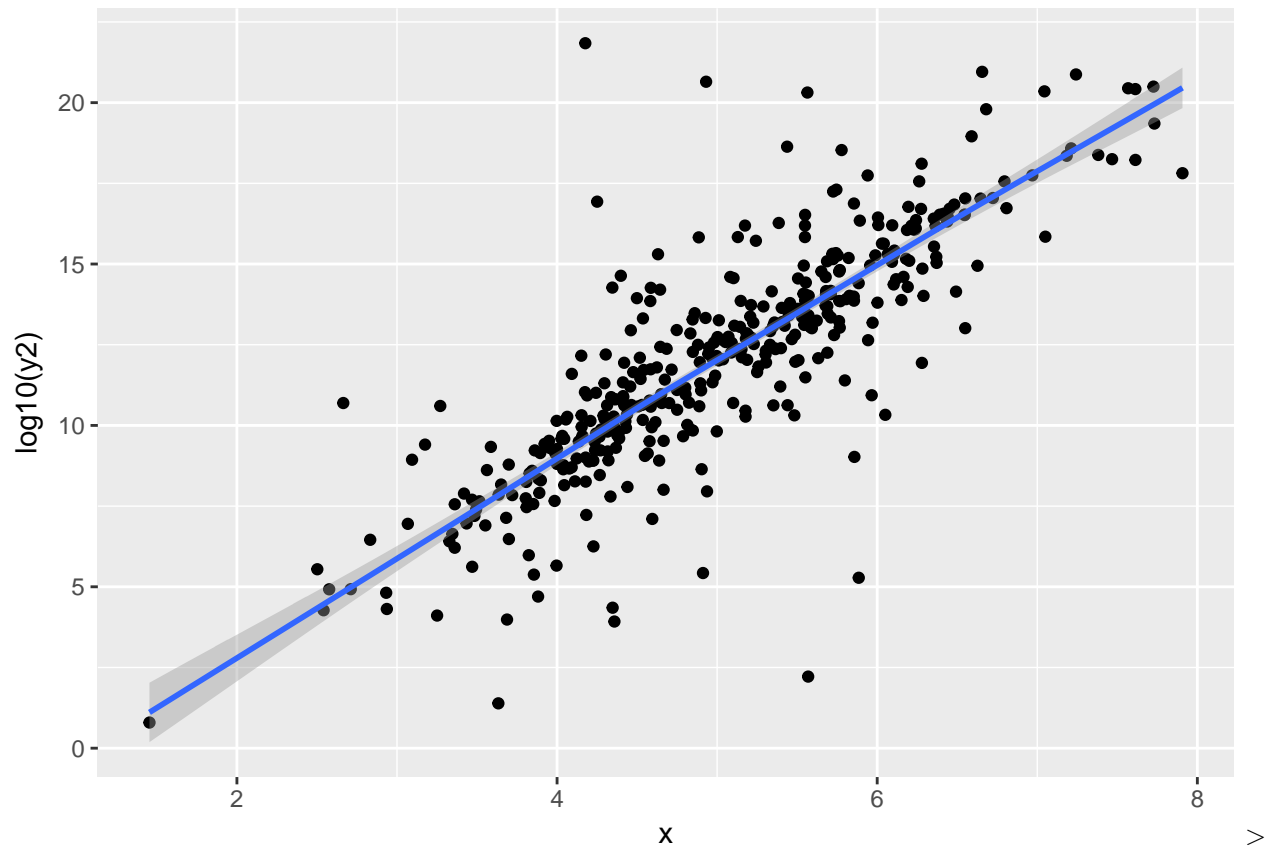## `geom_smooth()` using method = 'loess'

Loess curve with degree of 1 to make it follow a locally linear approach, straighter plot especially at the extremes.

2.

```
plot2 <- ggplot(problemset3, aes(x = x, y = log10(y2))) + geom_point() + geom_smooth(method.args=list(de
plot2
```
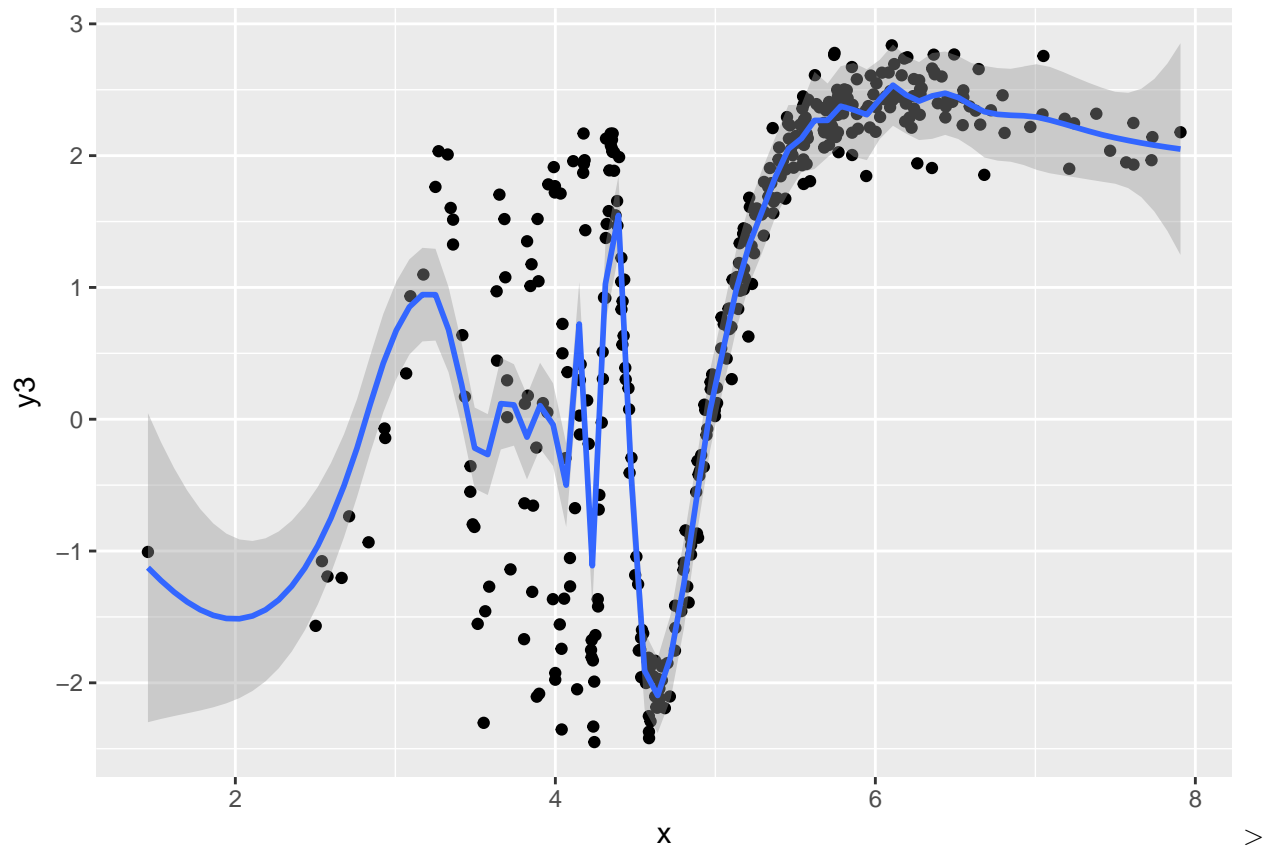
`geom_smooth()` using method = 'loess'

Loess with degree 1 again, linear curve, symmetric family to be more resistant to outliers, important because of the big one at x = 4.

3.

```
plot3 <- ggplot(problemset3, aes(x = x, y = y3)) + geom_point() + geom_smooth(span=.1)
plot3
```

```
## `geom_smooth()` using method = 'loess'
```

Loess again with lower span, of .1. Includes more data in the "neighborhood", effectively makes it more erratic and less smooth.