

model assumes that the variance is constant over the range. ✓

The model also assumes that the differences between each point and its corresponding predicted value for the straight line have mean zero and are ^{random} independent. In this case the model is

$$Y_i = Yx_i + W_i$$

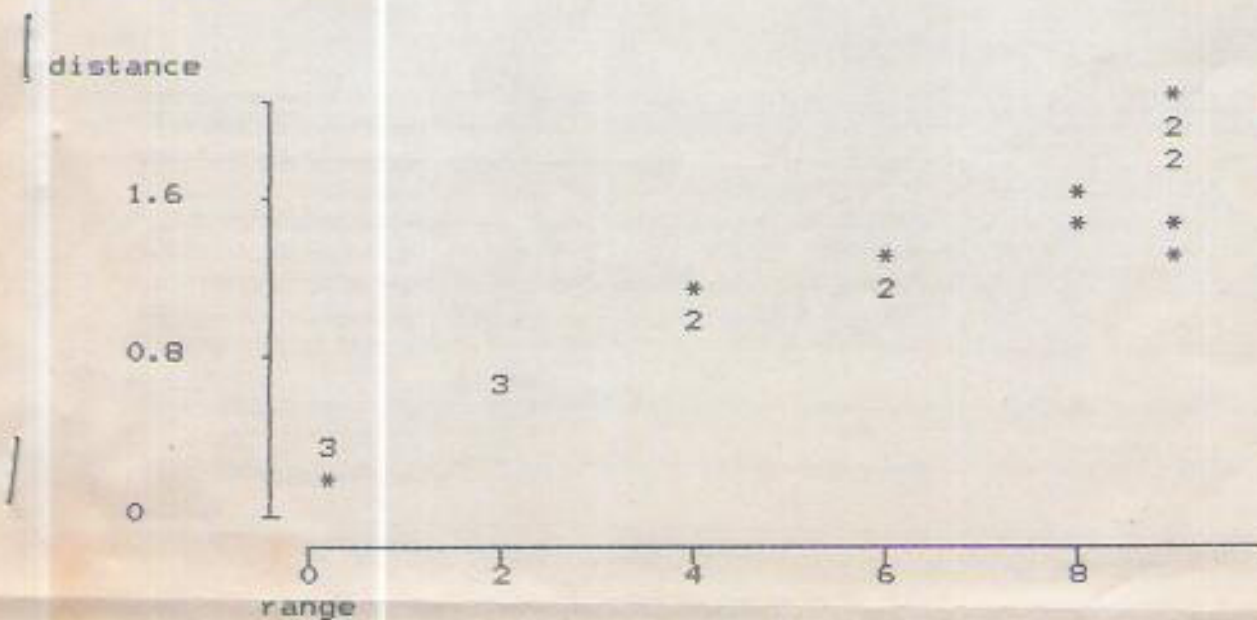
$$\text{or Distance} = Y \times \text{Range} + \text{scatter}$$

From the plot, the scatter at longer ranges seems greater on one side if it is not random, though this is due substantially to two outliers. If these were removed, independent scatter would be much more plausible. (Also see opposite).

```
sum(distance-0.1787*range)
2.015
```

The ~~average~~ differences do not sum to zero, hence all the assumptions of the regression model can be said not to be satisfied.

```
plot(distance, range)
```



```
linefit_(distance, range)
```

```
s = 0.1994 / RSS = 1.075
```

```
Fit: distance = 0.1994 * (range)
```

```
sum(distance-0.1994*range)
1.845
```