

Example 2: How strong is the linear relationship between the age of a driver and the distance the driver can see? A research firm (Last Resource, Inc., Bellefonte, PA) collected data on a sample of  $n = 30$  drivers. What can you say about the relationship? What is likely to be  $X$ ?  $\rightarrow$  Easy to know?

$Y$ ?  $\rightarrow$  interest!

$$\hat{\text{Distance}}_i = 576.6819 - 3.0068 \text{ Age}_i$$

for each year old you can see 3.0068 (feet?/meters?/yard?... ) less

if you were just born you should be able to see 576.6819 (?)

$$\text{Cov}(\text{Distance}, \text{Age}) \approx -1428.862$$

$$\text{Cor}(\text{Distance}, \text{Age}) \approx -0.8012447.$$