Reaction time with cell phone usage
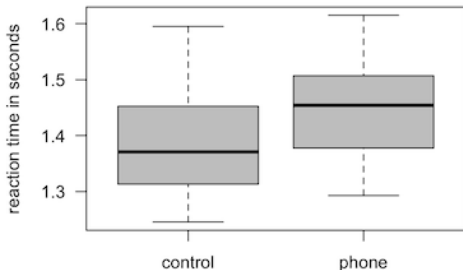
1. What can you say about the data from the median to q3 of the reaction times?

  a) cell phone users did better because the data is more tightly clustered together
  b) control group did better because the data is lower
  c) neither

2. What does the *y*-intercept mean when *x*=#years and *y*=#tickets and the best fit line is $y = -2.932x + 55.038$?

   a) police give out 55 tickets as they start the job
   b) tickets are going down by about 3 with every extra year of experience
   c) neither

2. What does the *y*-intercept mean when *x*=#years and
y=#tickets and the best fit line is $y = -2.932x + 55.038$?

  a) police give out 55 tickets as they start the job
  b) tickets are going down by about 3 with every extra year of
     experience
  c) neither

y = -2.9322x + 55.938
R² = 0.73967

No. tickets per week

No. years experience
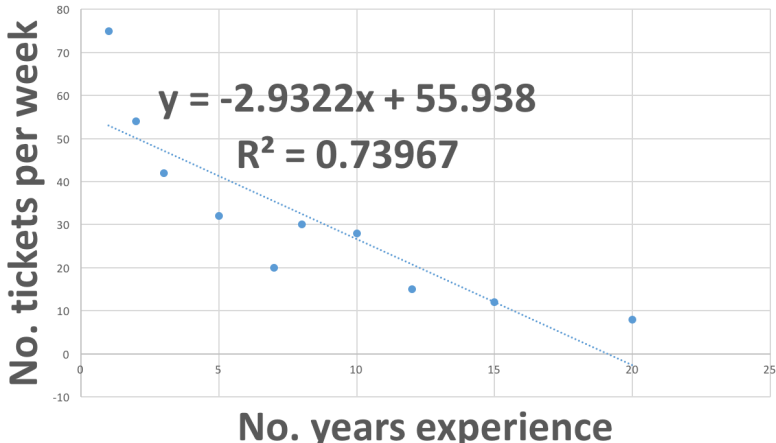
3. $r = -.86$, so $r^2 = 73.96\%$, and this tells us that
   a) If you use the line to predict you'd get it right 74% of the time
   b) The *y*-value distances of the data to the best fit line are small so experience in this data is a statistically strong predictor of tickets

3. $r = -.86$, so $r^2 = 73.96\%$, and this tells us that

   a) If you use the line to predict you'd get it right 74% of the time

   b) The y-value distances of the data to the best fit line are small so experience in this data is a statistically strong predictor of tickets

4. The r^2 value is strong but the line $y = -2.932(25) + 55.038$ predicts that the police receives tickets after 25 years. Resolve the apparent conflict.

   a) There is a typo—the actual r^2 value should be weak

   b) The mathematics of the r^2 value and the prediction are correct: the police gets sloppy as they get older, causing them to be penalized

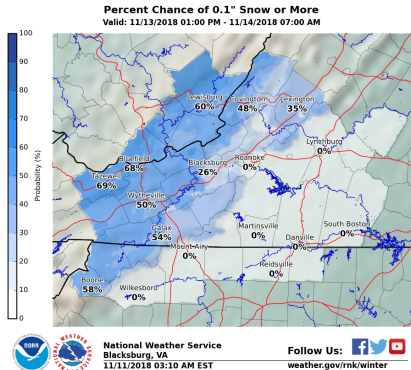   c) There are other reasons why the prediction doesn't hold up like extrapolation

5. If the r^2 value was 100%, would you be assured to make money by using the best fit line to predict the future performance?

   a) yes
   b) no

How to Get Rich Quick as a Stock Whiz

5. If the r^2 value was 100%, would you be assured to make money by using the best fit line to predict the future performance?
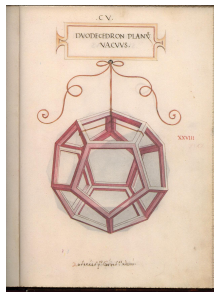
   a) yes
   b) no

Percent Chance of 0.1" Snow or More
Valid: 11/13/2018 01:00 PM - 11/14/2018 07:00 AM

National Weather Service
Blacksburg, VA
11/11/2018 03:10 AM EST

Follow Us:
weather.gov/rnk/winter

Picture and data: `https://www.weather.gov/rnk/winter`

≥ .1"	≥ 1"	≥ 2"	≥ 4"	≥ 6"	≥ 8"	≥ 12"	≥ 18"
58%	3%	0%	0%	0%	0%	0%	0%

The weather, stocks and more are chaotic dynamical systems with uncertainty within expected values

6. As a researcher, was it ethical to remove the armspan/height points that I eliminated and keep the remaining points?

   a) yes
   b) no
   c) did not complete

7. In the egg bungee experiment the similarity of the rubber bands led to an almost constant slope =
$$\frac{\Delta y}{\Delta x} = \frac{\Delta \text{distance dropped}}{\Delta \text{rubber bands}}$$

  a) egg-sactly
  b) egg-stremely close
  c) somewhat
  d) not at all
  e) did not complete

7. In the egg bungee experiment the similarity of the rubber bands led to an almost constant slope =
$$\frac{\Delta y}{\Delta x} = \frac{\Delta \text{distance dropped}}{\Delta \text{rubber bands}}$$

a) egg-sactly
b) egg-stremely close
c) somewhat
d) not at all
e) did not complete

8. My group used less than or equal to the number of rubber bands that the line predicted for 200 cm:

a) true
b) false
c) did not complete

9. Even without r^2 in front of us, we can visually inspect and categorize relationships. From Gapminder did you think that recent Income is at least a statistically moderate predictor of Life expectancy (i.e. moderate/strong versus a no/weak correlation)?

  a) yes
  b) no
  c) did not complete

```
http:
//www.gapminder.org/tools/#$chart-type=bubbles
```