See attached for graphs.

1b) yhat = 1.29x + 465
c) 0.73, strong-to-moderate positive correlation
d) HRs hit predict 53% of variability in runs scored

2b) yhat = 3.645x − 200
c) 0.67, moderate positive correlation
d) AVE predicts 45% of variability in runs scored

3b) yhat = 4.643x − 751
c) 0.92, strong pos. corr.
d) OBP predicts 86% of variability in runs scored

4b) yhat = 2.551x − 315
c) 0.94, strong pos. corr.
d) SLG predicts 88% of variability in runs scored

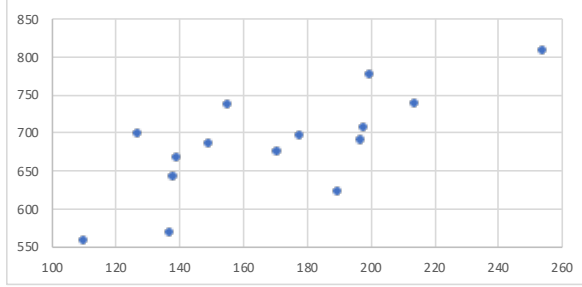5) Each home run is worth 1.29 runs, on average
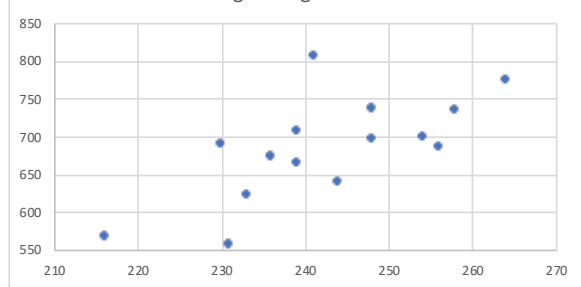
6) OBP and SLG

7)a) 4.643
b) 2.551
c) about 2 times as much (1.82 times as much)
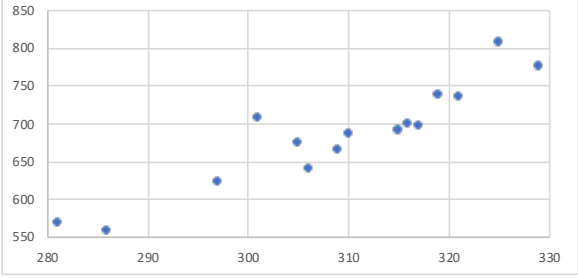
8) Yes. Statistics is amazing.

HOME RUNS and RUNS

850
800
750
700
650
600
550

100 120 140 160 180 200 220 240 260

Batting Average and RUNS

850
800
750
700
650
600
550

210 220 230 240 250 260 270

On-base percentage and RUNS

Slugging percentage and RUNS