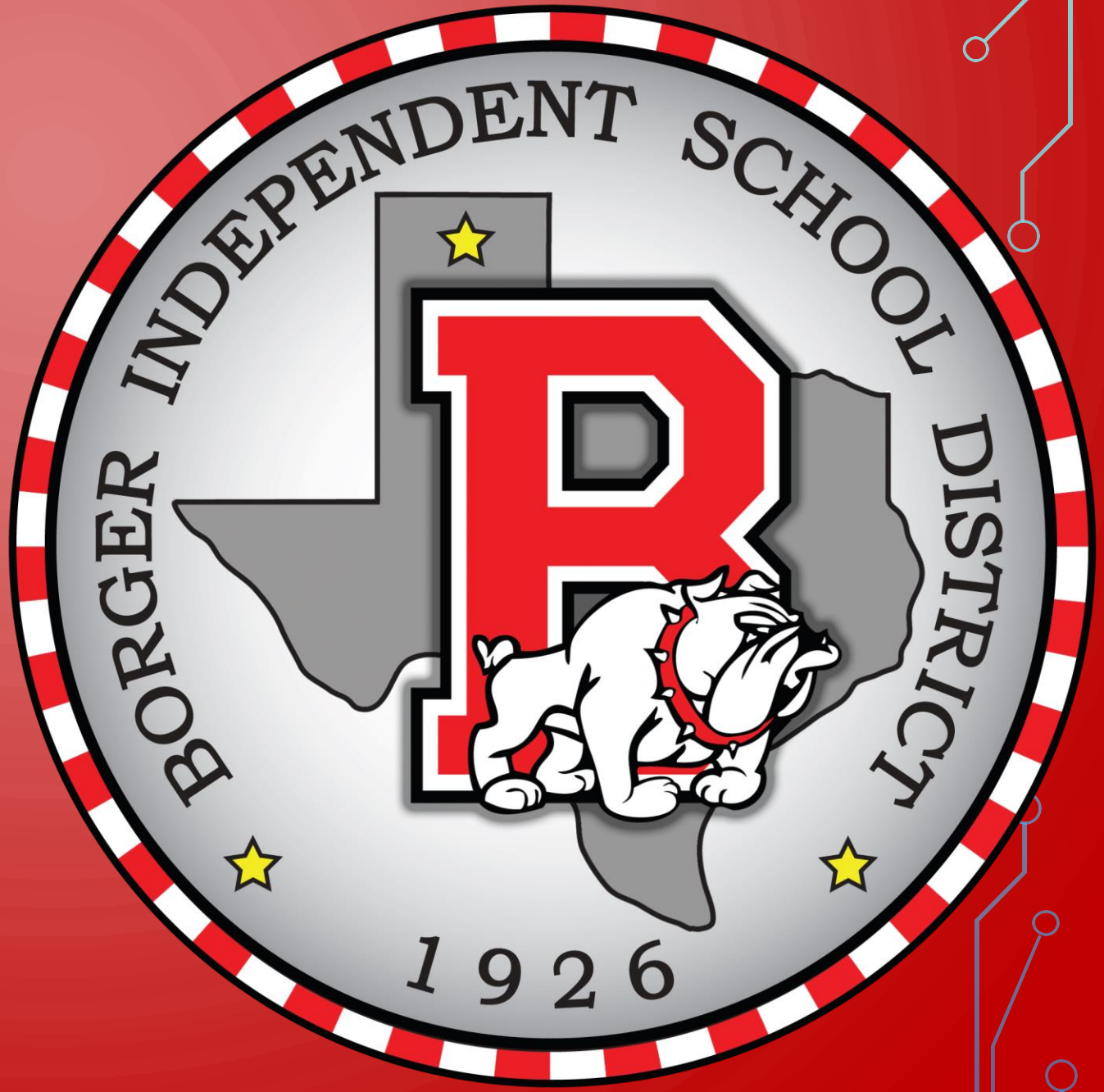
BOARD NOTES

25 SEPTEMBER 2018



CC PRECALCULUS CHAPTER 3 – LINEAR AND QUADRATIC FUNCTIONS

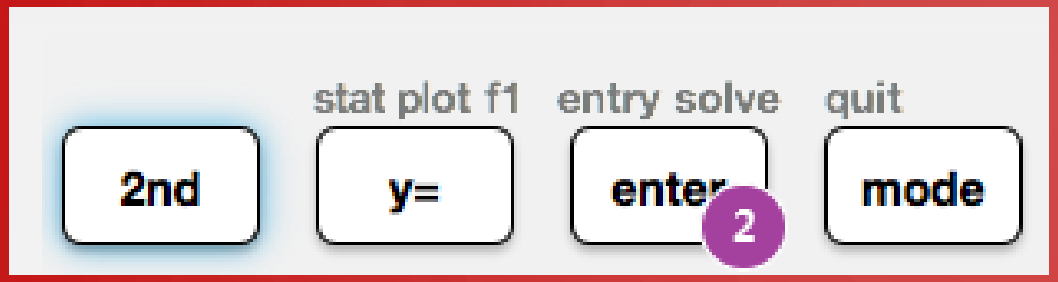
- SECTION 3.2 - BUILDING LINEAR MODELS FROM DATA

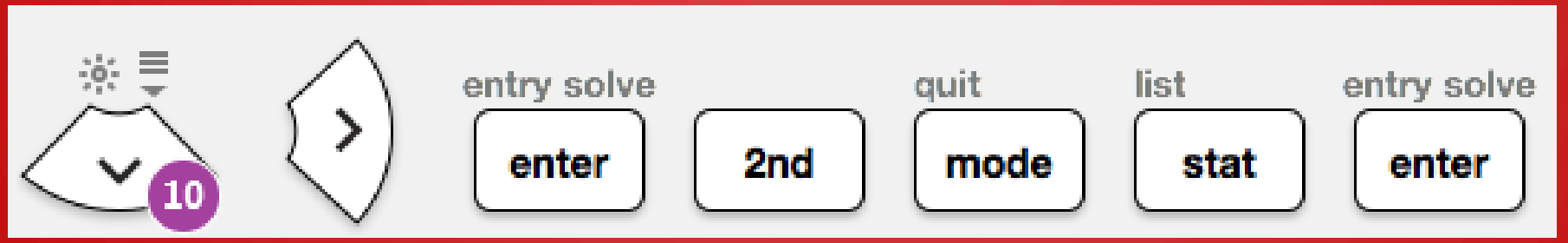
Objectives:

- Draw and interpret Scatter Diagrams
- Distinguish between Linear and Nonlinear relations
- Use a graphing utility to find the line of best fit

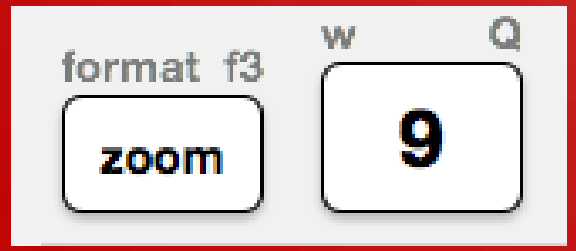
Team	On-Base Percentage, x	Runs Scored, y	(x, y)
Arizona	32.3	685	(32.3, 685)
Atlanta	32.1	688	(32.1, 688)
Chicago Cubs	30.0	602	(30.0, 602)
Cincinnati	32.7	698	(32.7, 698)
Colorado	32.3	706	(32.3, 706)
LA Dodgers	32.6	649	(32.6, 649)
Miami	29.3	513	(29.3, 513)
Milwaukee	31.1	640	(31.1, 640)
NY Mets	30.6	619	(30.6, 619)
Philadelphia	30.6	610	(30.6, 610)
Pittsburgh	31.3	634	(31.3, 634)
San Diego	30.8	618	(30.8, 618)
San Francisco	32.0	629	(32.0, 629)
St. Louis	33.2	783	(33.2, 783)
Washington	31.3	656	(31.3, 656)

Source: espn.go.com

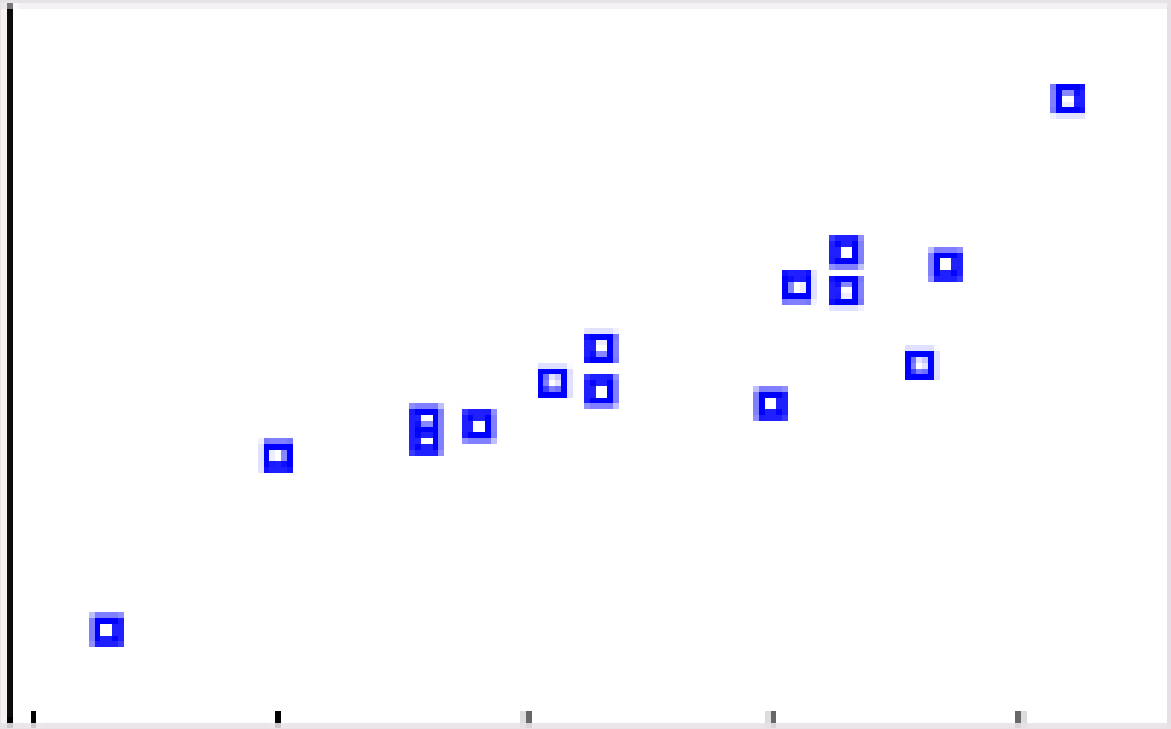


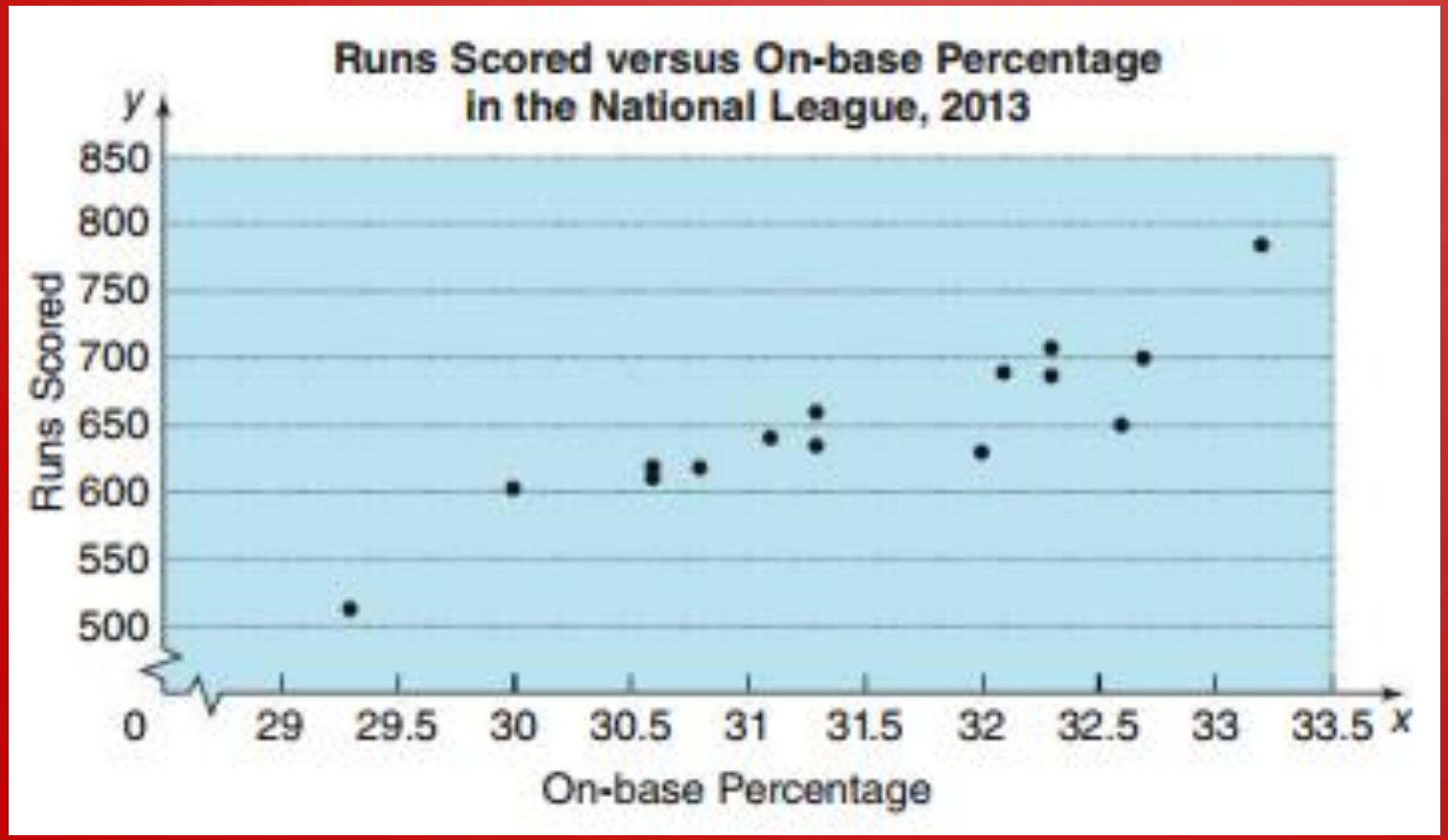


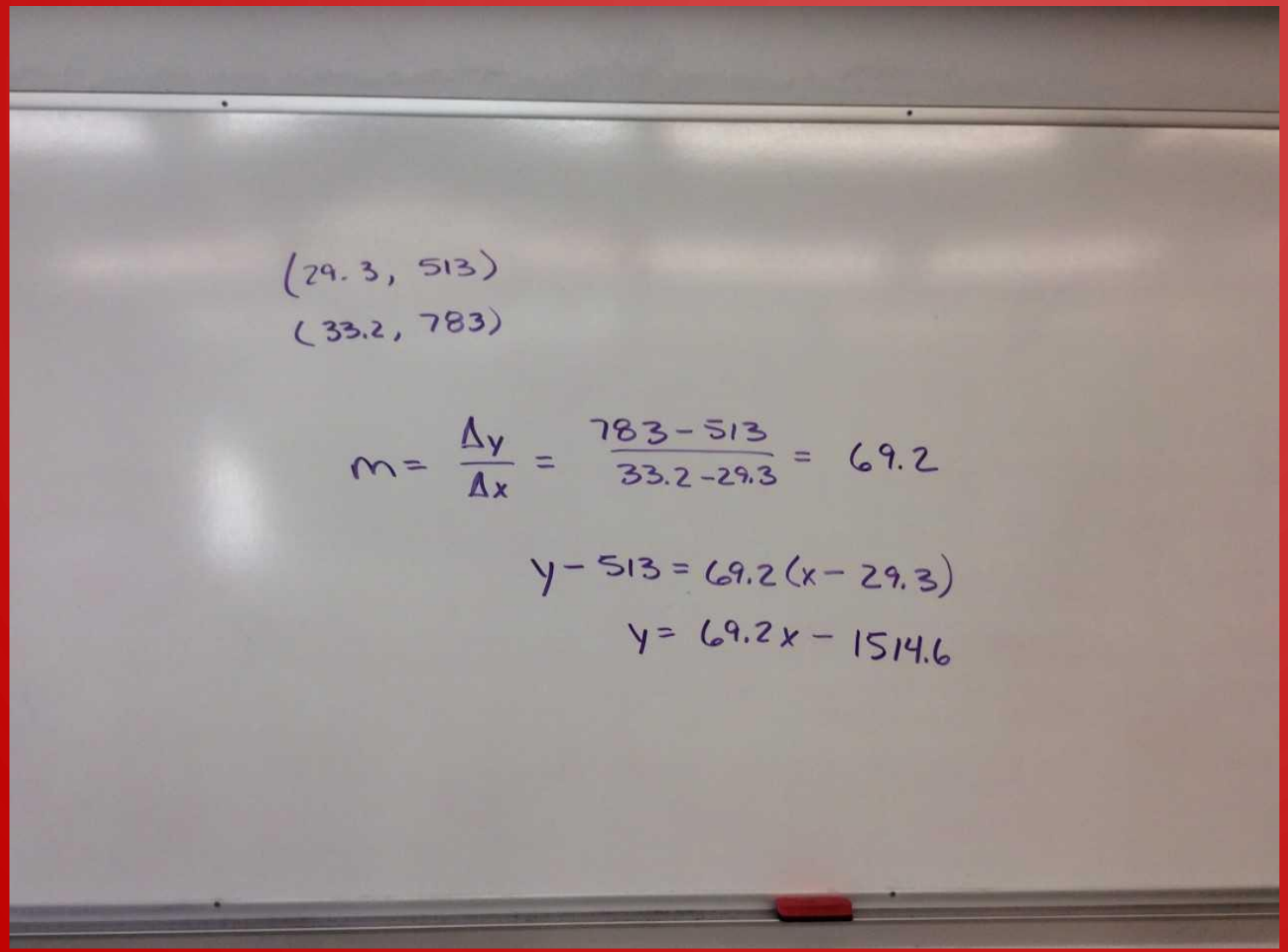
Enter Data in L1 and L2

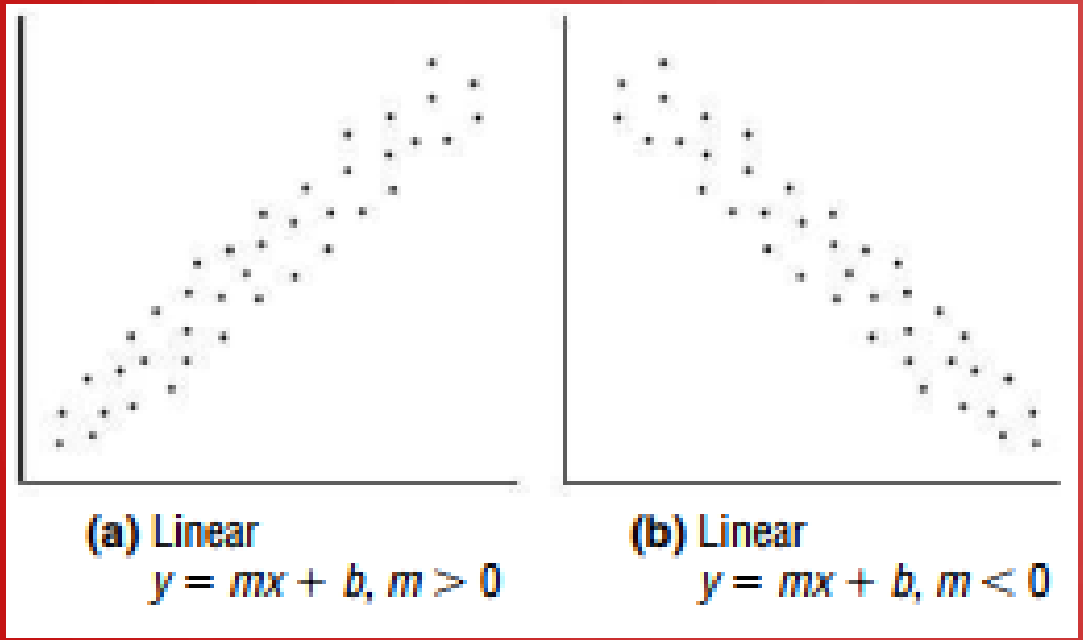


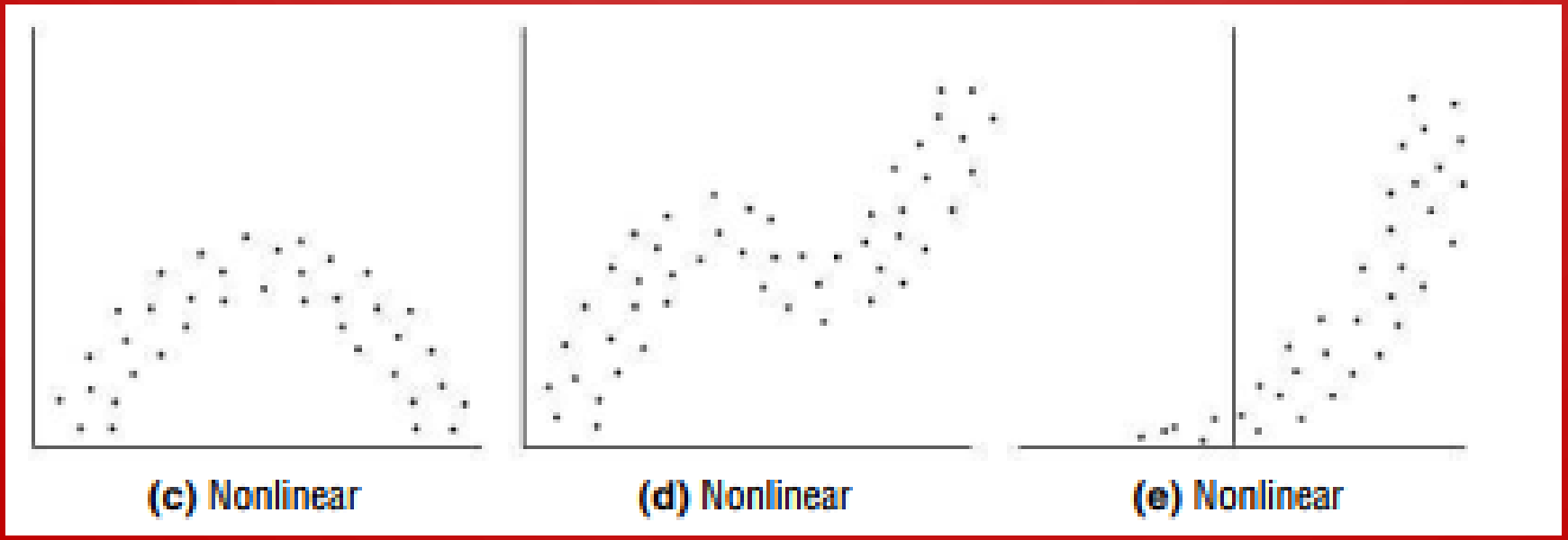
NORMAL FLOAT AUTO REAL RADIAN MP

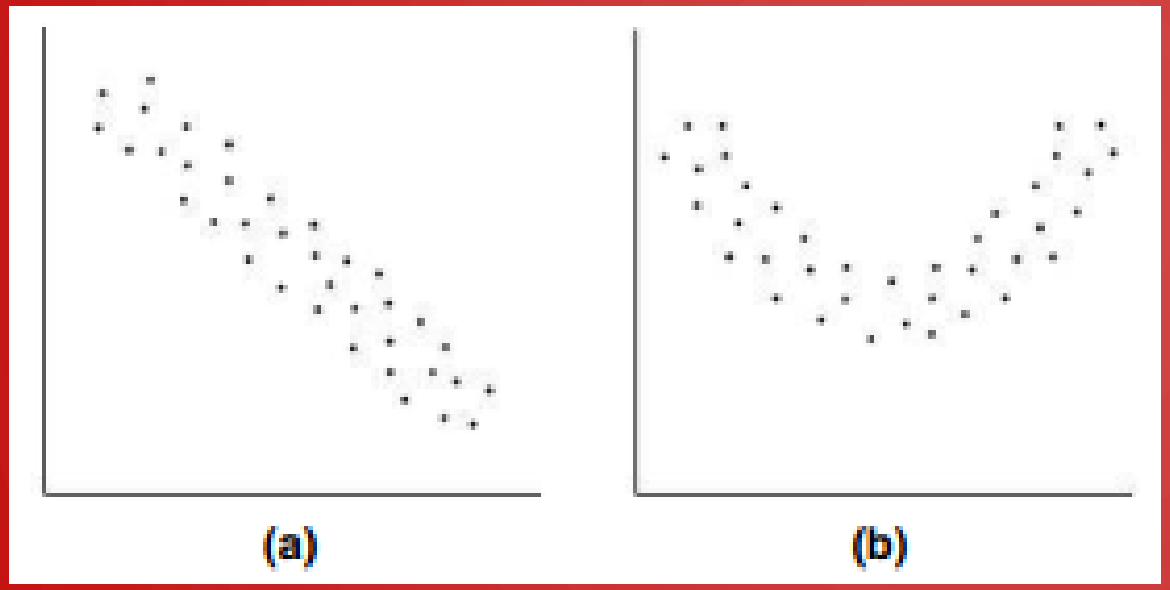


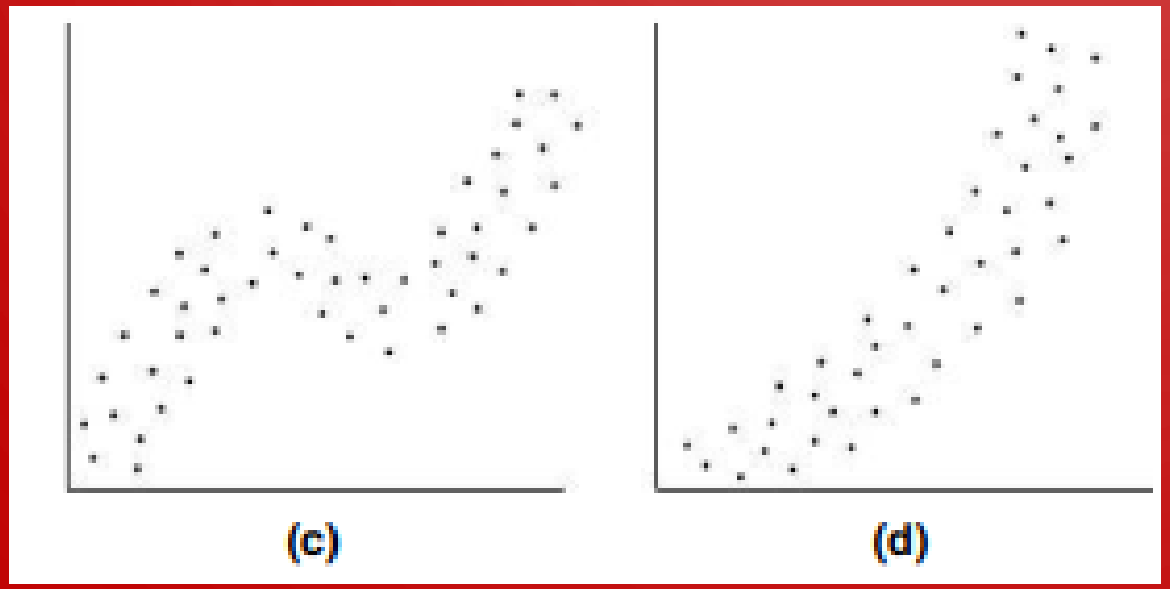

Runs Scored versus On-base Percentage
in the National League, 2013
y
850
800
750
700
650
600
550
500
Runs Scored
0
29
29.5
30
30.5
31
31.5
32
32.5
33
33.5
x
On-base Percentage

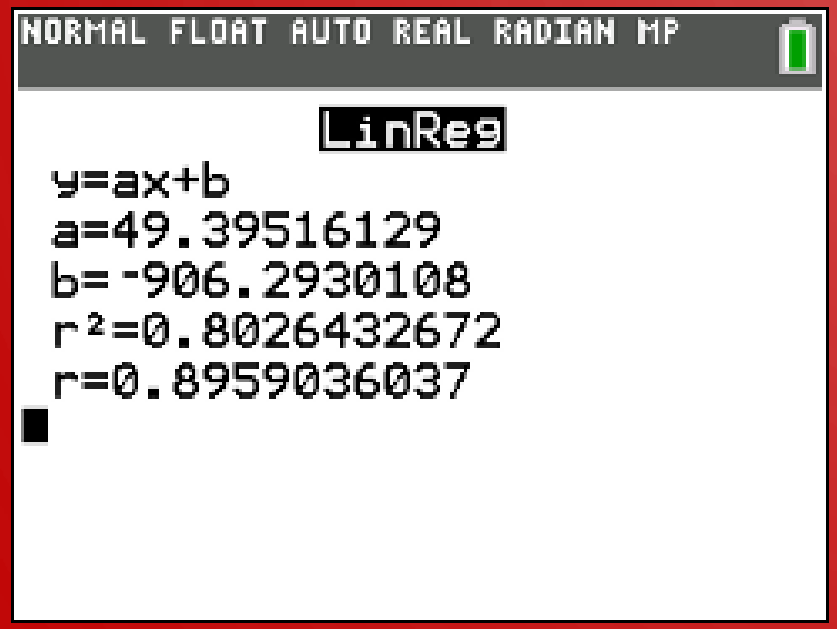

(29.3, 513)
(33.2, 783)
$m = \frac{\Delta y}{\Delta x} = \frac{783-513}{33.2-29.3} = 69.2$
$y - 513 = 69.2(x - 29.3)$
$y = 69.2x - 1514.6$

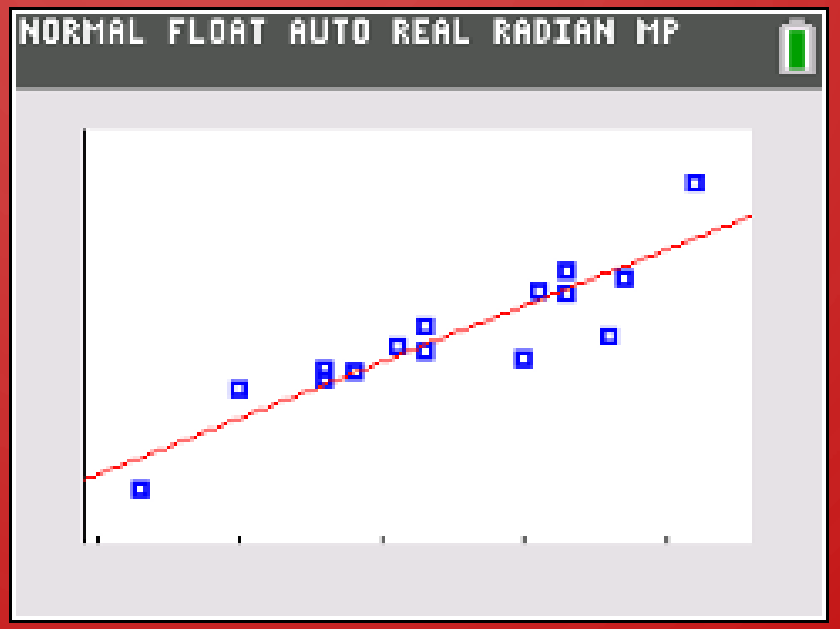

(a) Linear
$y = mx + b, m > 0$
(b) Linear
$y = mx + b, m < 0$


(c) Nonlinear
(d) Nonlinear
(e) Nonlinear


(a)
(b)


(c)
(d)


NORMAL FLOAT AUTO REAL RADIAN MP
LinReg
y=ax+b
a=49.39516129
b=-906.2930108
r²=0.8026432672
r=0.8959036037


NORMAL FLOAT AUTO REAL RADIAN MP

list
stat
entry solve
enter
stat plot f1
y=
distr
vars
entry solve
enter
entry solve
enter
table f5
graph
3
6
4
2