ASDM Revision Questions.

Textbook exercises:

Q1: Two Data sets…

Set1	Set2
10	100
20	200
30	300
40	400
50	500

Calculate mean and standard deviation, then comment on the relationship.

Set 1 mean = (10 + 20 + 30 + 40 + 50)/5 = 30
Set 1 stDev = Sum over x(sqrt((x-mean)^2)/(n-1)

x	(x-mean)^2
10	400
20	100
30	0
40	100
50	400

Sum over x => 1000
StDev = 10sqrt(10) = 31.6/4 = 7.9

Set 2 mean = (100 + 200 + 300 + 400 + 500)/5 = 300
Set 2 stDev = Sum over x(sqrt((x-mean)^2)/(n-1)

x	(x-mean)^2
100	40000
200	10000
300	0
400	10000
500	40000

Sum over x => 100000
StDev = 10sqrt(10) = 316/4 = 79

The two sets have a positive linear relationship.

Q2: