Task 6

note: all of the working is on the excel file attached!

1.)

x	y	$z = \ln y$	x_z	x^2	$f(x)$	$y - f(x)$	$(y - f(x))^2$
1	50	3.912023	3.912	1	57.7244	-7.7244	59.6658
3	12.5	2.525729	7.5772	9	11.8088	0.6912	0.4778
4	6.2	1.824549	7.2982	16	5.3411	0.8589	0.7377
5	3.1	1.131402	5.657	25	2.4158	0.6842	0.4682
6	0.8	-0.22314	-1.339	36	1.0926	-0.2926	0.0856

a.) $\bar{x} = 3.8$

$\bar{z} = 1.8391119$

$\ln a = 4.8491$

$\ln b = -0.79341694$

$a = 127.6250008$ $b = 0.45229668$ //

b.) S.D = 4.525303614 //

2.)

x	y	$w = \ln x$	$z = \ln y$	wz	w^2	$f(x)$	$y - f(x)$	$(y - f(x))^2$
1	200	0	5.298317	0	0	200.9171	-0.9171	0.8411
2	1605	0.6931472	7.380879	5.1160355	0.48045301	1588.1551	16.8449	283.7520
3	5403	1.0986123	8.59471	9.4422536	1.20694896	5322.5127	80.4873	6478.2065
4	12005	1.3862944	9.393079	13.021572	1.92181206	12553.6184	-548.6184	300982.2006
5	25010	1.6094379	10.12703	16.298818	2.59029039	24424.2053	585.7947	343155.9320

a.) $\bar{w} = 0.957498349$

$\bar{z} = 8.158803114$

$b = 2.982679583$

$\ln a = 5.3029$

$a = 200.0170907$ //

b.) S.D = 465.796963