sum of all x =36 sum of all y = 140.1

sum of all products of x and y =756.9

sum of all squares of x = 204 sum of all squares of y = 2834.23

SQUARE of the sum of all x = 1296 SQUARE of the sum of all y = 19628.01

n = 8

TOP = $8(756.9)-36(140.1)=1011.6$

A = $8(204)-(36)^2=8(204)-1296=336$

B = $8(2834.23)-(140.1)^2=8(2834.23)-19628.01=3045.83$

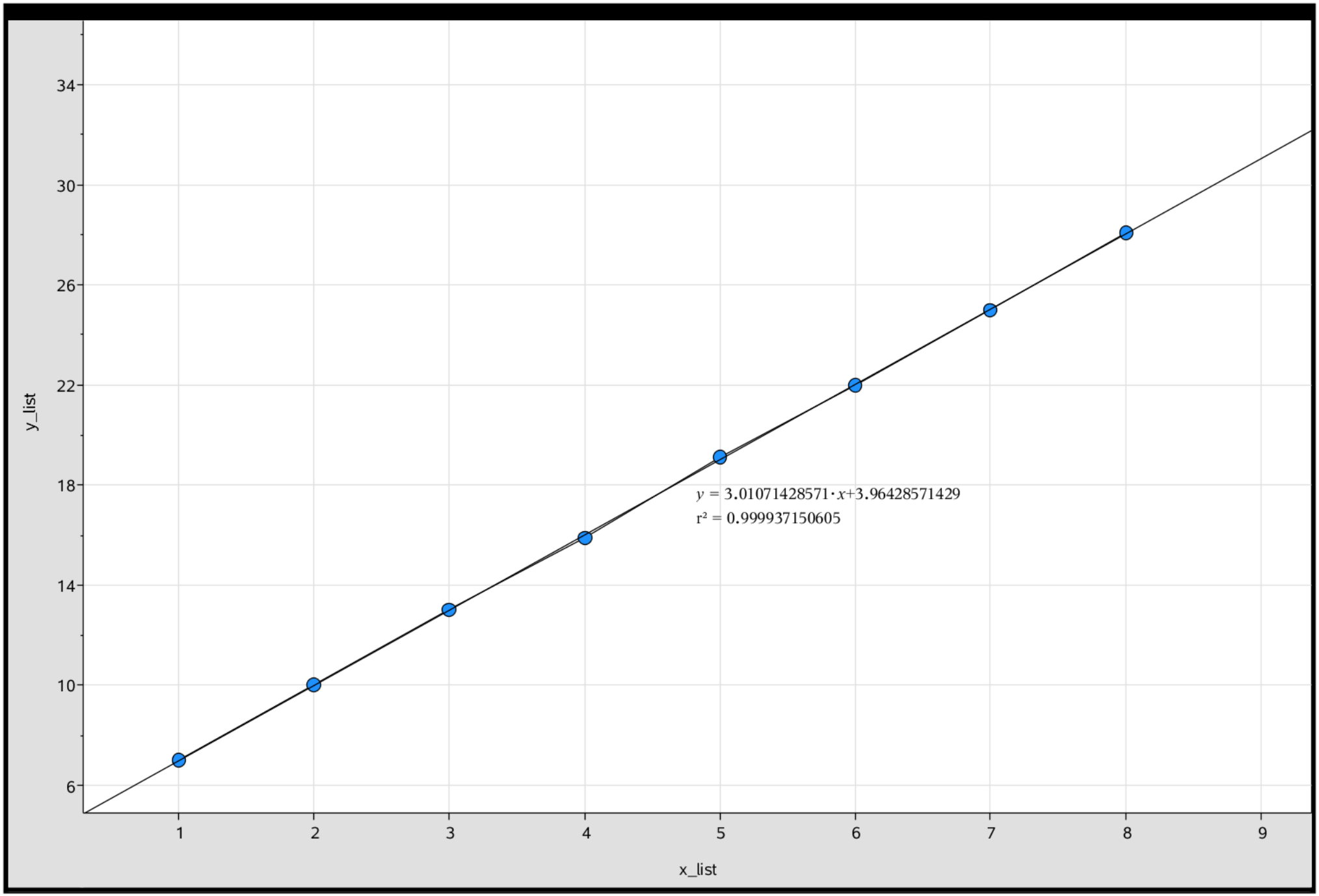
$$r=\frac{TOP}{\sqrt{A}\sqrt{B}}=\frac{1011.6}{\sqrt{336}\cdot\sqrt{3045.83}}=0.999968574809$$

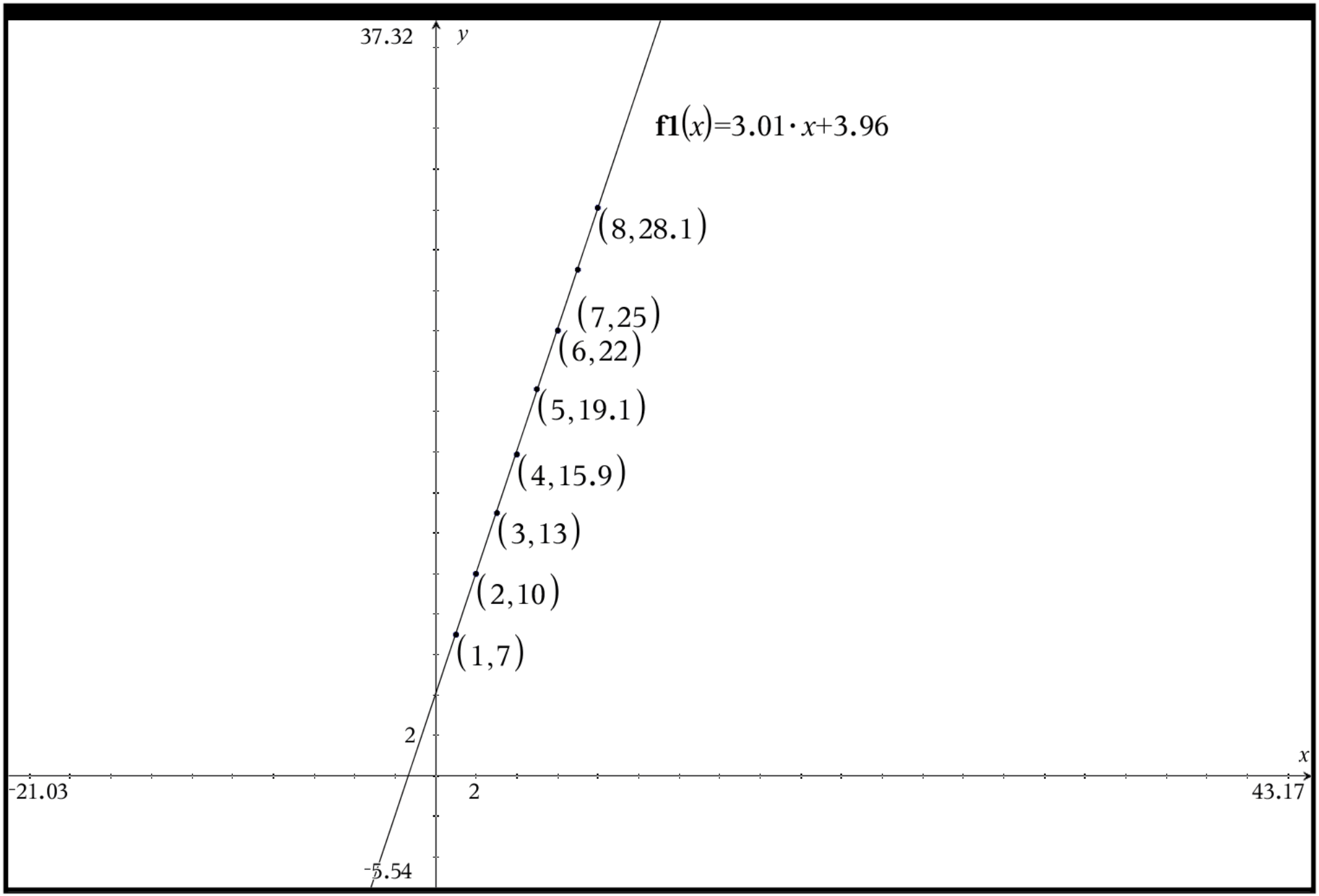
This has STRONG positive correlation

The line of best fit is y $\approx 3.01\cdot x+3.96$

	A x_list	B y_list	C	D	E	F	G	H	I	J	K	L
=					=LinRegMx('x_list,'y							
1	1	7		Title	Linear Regression...							
2	2	10		RegEqn	m*x+b							
3	3	13		m	3.01071428571							
4	4	15.9		b	3.96428571429							
5	5	19.1		r^2	0.999937150605							
6	6	22		r	0.999968574809							
7	7	25		Resid	{0.025,0.0142857...							
8	8	28.1										
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												

A1 =1


34
30
26
22
18
14
10
6
y_list
1
2
3
4
5
6
7
8
9
x_list
y = 3.01071428571·x+3.96428571429
r² = 0.999937150605


37.32
y
f1(x)=3.01·x+3.96
(8,28.1)
(7,25)
(6,22)
(5,19.1)
(4,15.9)
(3,13)
(2,10)
(1,7)
2
x
-21.03
2
43.17
-5.54

Solutions to the Sample Quiz version 7

	A x_list	B y_list	C xy_list	D x_sq	E y_sq	F	G	H	I	J n_count	K	L	M
=			=x_list*y_l	=x_list^2	=y_list^2					=x_list/x_l			
1	1	7	7	1	49	sum_x	**36**			1			T
2	2	10	20	4	100	sum_y	**140.1**			1			R
3	3	13	39	9	169	sum_xy	**756.9**			1		**3.01071...**	m
4	4	15.9	63.6	16	252.81	sum_sqx	**204**			1		**3.96428...**	b
5	5	19.1	95.5	25	364.81	sum_sqy	**2834.23**			1			r^2
6	6	22	132	36	484	sq_sumx	**1296**			1		**0.99996...**	r
7	7	25	175	49	625	sq_sumy	**19628.01**			1			R
8	8	28.1	224.8	64	789.61	n	**8**			1			
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													

A1 1

sum of all x = 28 sum of all y = -115.

sum of all products of x and y = -542.

sum of all squares of x = 140 sum of all squares of y = 2135.5

SQUARE of the sum of all x = 784 SQUARE of the sum of all y = 13225.

n = 7

TOP = $7(-542.)-28(-115.)=-574.$

A = $7(140)-(28)^2=7(140)-784=196$

B = $7(2135.5)-(-115.)^2=7(2135.5)-13225.=1723.5$

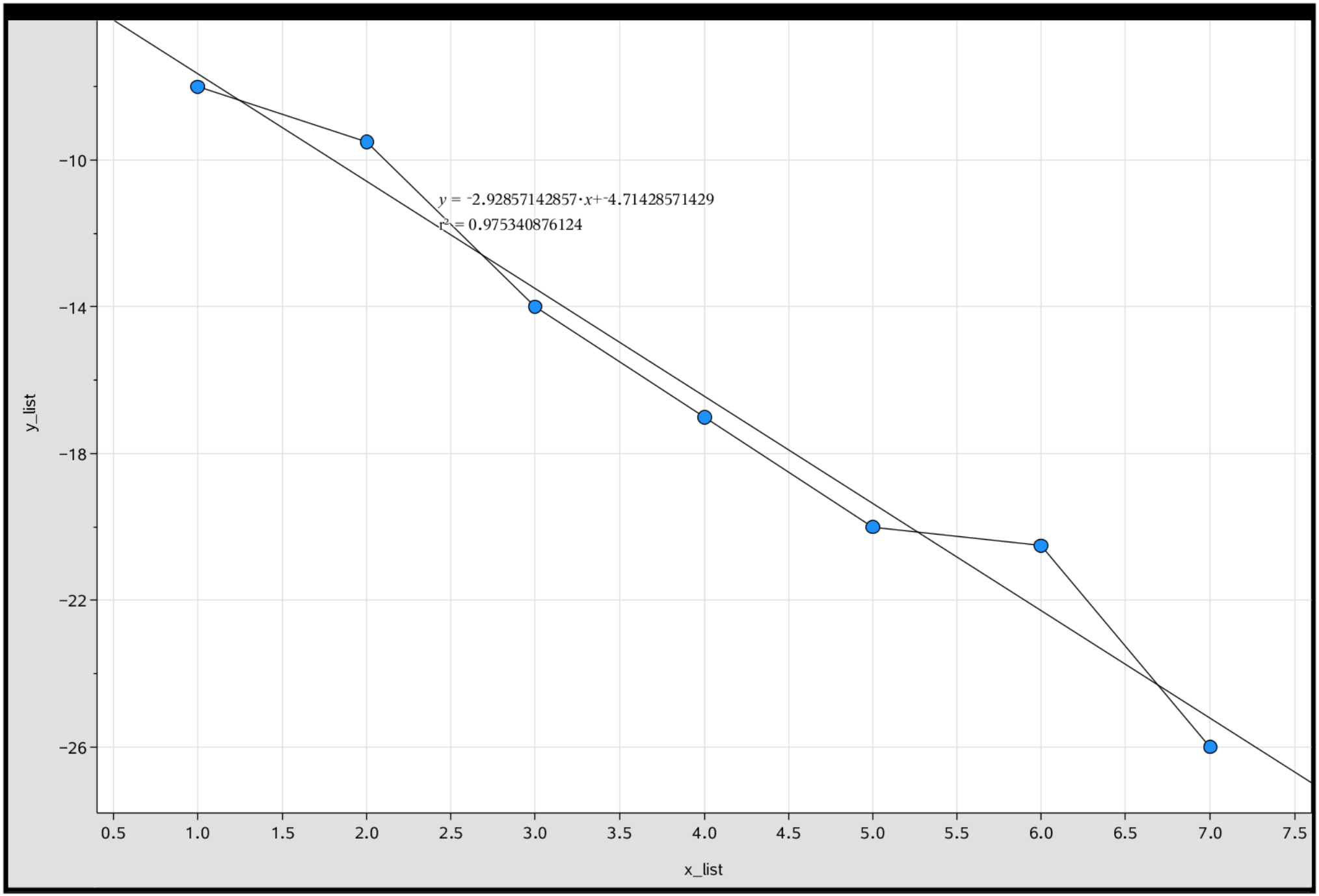
$$r=\frac{TOP}{\sqrt{A}\sqrt{B}}=\frac{-574}{\sqrt{196}\cdot\sqrt{1723.5}}=-0.987593477158$$

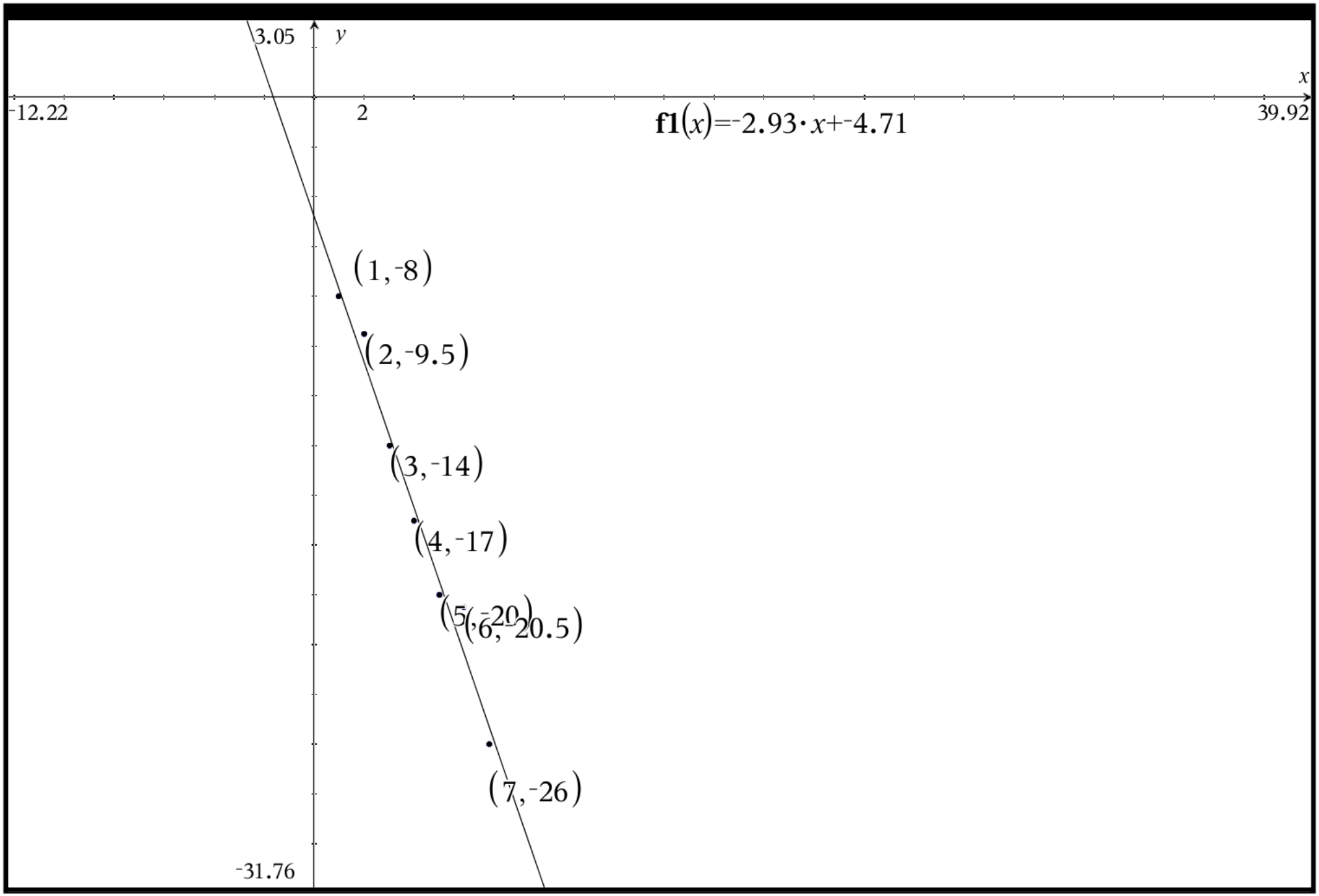
This has STRONG negative correlation

The line of best fit is $y \approx -2.93\cdot x-4.71$

	A x_list	B y_list	C	D	E	F	G	H	I	J	K	L
=					=LinRegMx('x_list,'y							
1	1	-8		Title	Linear Regression...							
2	2	-9.5		RegEqn	m*x+b							
3	3	-14		m	-2.92857142857							
4	4	-17		b	-4.71428571429							
5	5	-20		r^2	0.975340876124							
6	6	-20.5		r	-0.987593477158							
7	7	-26		Resid	{-0.357142857142..							
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												

A1 =1


y = -2.92857142857·x+-4.71428571429
r² = 0.975340876124
-10
-14
-18
-22
-26
y_list
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
7.0
7.5
x_list


3.05
y
x
-12.22
2
39.92
f1(x)=-2.93·x+-4.71
(1,-8)
(2,-9.5)
(3,-14)
(4,-17)
(5,-20)
(6,-20.5)
(7,-26)
-31.76

Solutions to the Sample Quiz version 7

	A x_list	B y_list	C xy_list	D x_sq	E y_sq	F	G	H	I	J n_count	K	L	M
=			=x_list*y_l	=x_list^2	=y_list^2					=x_list/x_l			
1	1	-8	-8	1	64	sum_x	**28**			1			T
2	2	-9.5	-19.	4	90.25	sum_y	**-115.**			1			R
3	3	-14	-42	9	196	sum_xy	**-542.**			1		**-2.9285...**	m
4	4	-17	-68	16	289	sum_sqx	**140**			1		**-4.7142...**	b
5	5	-20	-100	25	400	sum_sqy	**2135.5**			1			r^2
6	6	-20.5	-123.	36	420.25	sq_sumx	**784**			1		**-0.9875...**	r
7	7	-26	-182	49	676	sq_sumy	**13225.**			1			R
8						n	**7**						
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													

A1 =1