Problem 1

sum of all x = 36 sum of all y = $^{-}142.8$

sum of all products of x and y = $^{-}774.5$

sum of all squares of x = 204 sum of all squares of y = 2966.06

SQUARE of the sum of all x = 1296 SQUARE of the sum of all y = 20391.84

n = 8

TOP = $8(^{-}774.5)-36(^{-}142.8)=^{-}1055.2$

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

B = $8(2966.06)-(^{-}142.8)^2=8(2966.06)-20391.84=3336.64$

$$r=\frac{TOP}{\sqrt{A}\sqrt{B}}=\frac{^{-}1055.2}{\sqrt{336}\cdot\sqrt{3336.68}}=^{-}0.996570127101$$

This has STRONG negative correlation

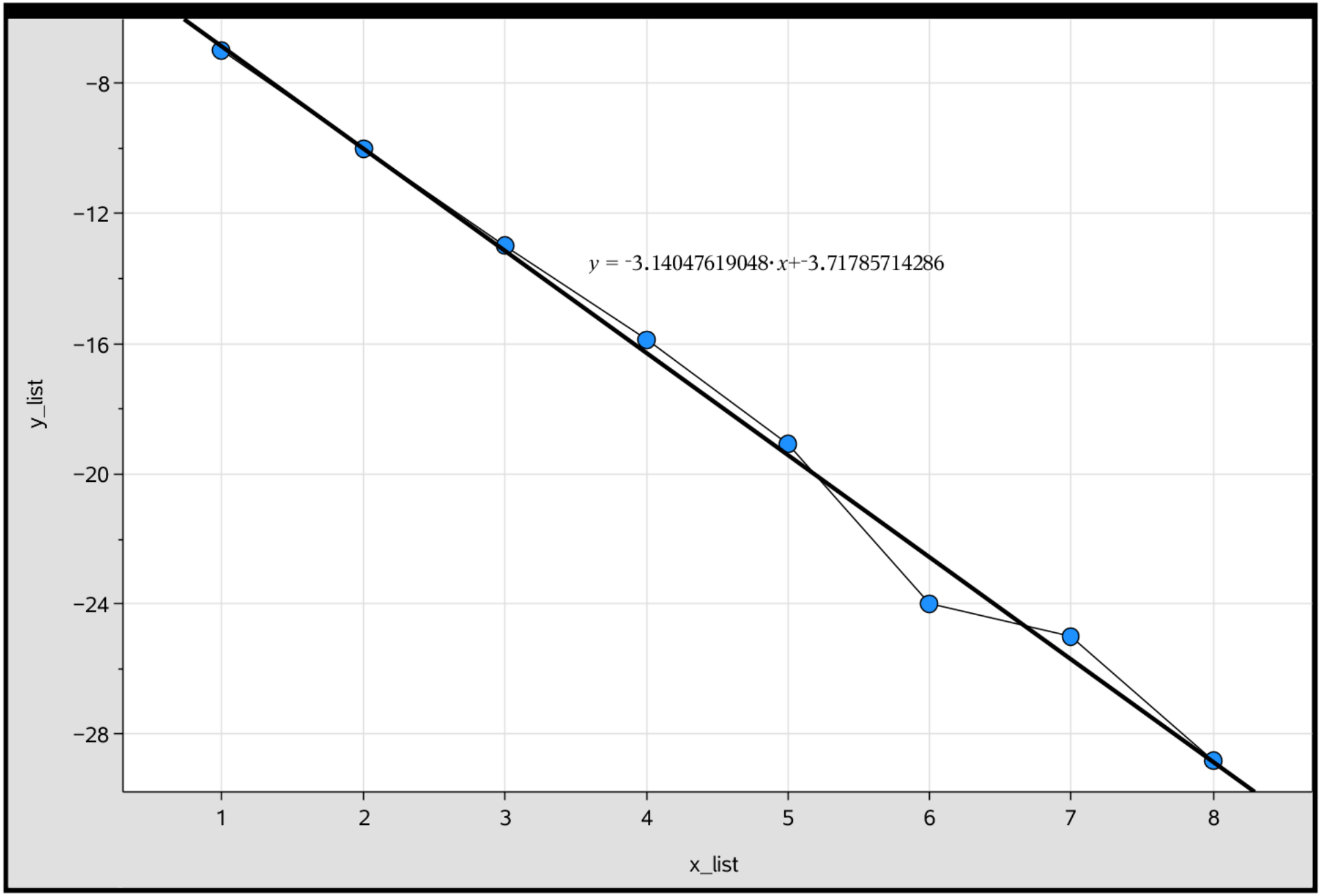
The line of best fit is y $\approx {}^{-}3.14\cdot x-3.72$

Problem 1

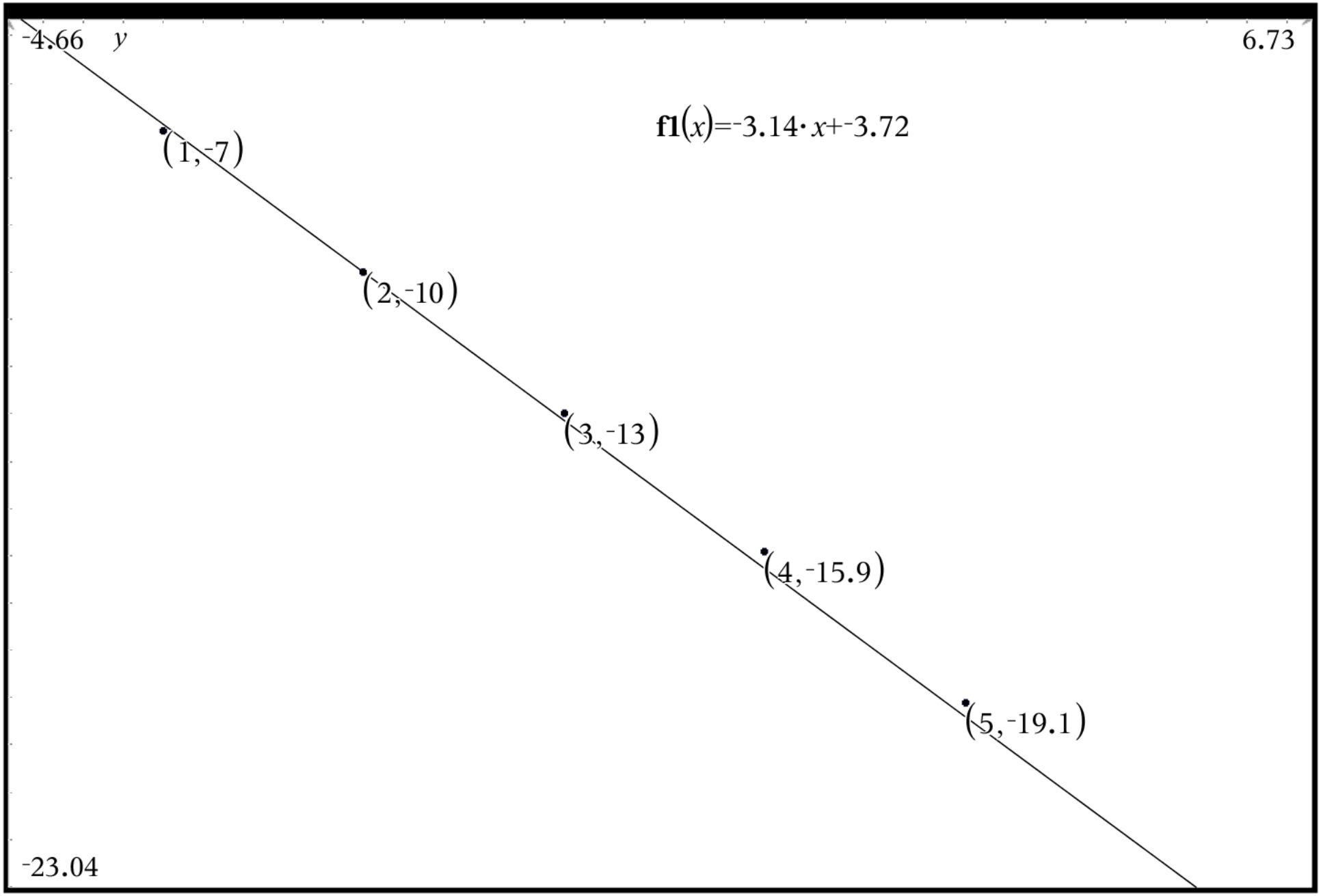
	A x_list	B y_list	C	D	E	F	G	H	I
=					=LinRegMx('x_list,'y				
1	1	-7		Title	Linear Regression...				
2	2	-10		RegEqn	m*x+b				
3	3	-13		m	-3.14047619048				
4	4	-15.9		b	-3.71785714286				
5	5	-19.1		r^2	0.993163924244				
6	6	-24		r	-0.996576100579				
7	7	-25		Resid	{-0.141666666666..				
8	8	-28.8							
9									
10									
11									
12									
13									
14									
15									

B9

Problem 1


y = -3.14047619048·x+-3.71785714286
−8
−12
−16
−20
−24
−28
y_list
1
2
3
4
5
6
7
8
x_list

Problem 1



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
=			=x_list*y_l	=x_list^2	=y_list^2					=x
1	1	-7	-7	1	49	sum_x	**36**			
2	2	-10	-20	4	100	sum_y	**-142.8**			
3	3	-13	-39	9	169	sum_xy	**-774.5**			
4	4	-15.9	-63.6	16	252.81	sum_sqx	**204**			
5	5	-19.1	-95.5	25	364.81	sum_sqy	**2966.06**			
6	6	-24	-144	36	576	sq_sumx	**1296**			
7	7	-25	-175	49	625	sq_sumy	**20391.84**			
8	8	-28.8	-230.4	64	829.44	n	**8**			
9										
10										
11										
12										
13										

A1 1

Problem 2

sum of all x =28 sum of all y = 114.7

sum of all products of x and y =539.7

sum of all squares of x = 140 sum of all squares of y = 2121.17

SQUARE of the sum of all x = 784 SQUARE of the sum of all y = 13156.09

n = 7

TOP = $7(539.7)-28(114.7)=566.3$

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

B = $7(2121.17)-(114.7)^2=7(2121.17)-13156.09=1692.1$

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

This has STRONG positive correlation

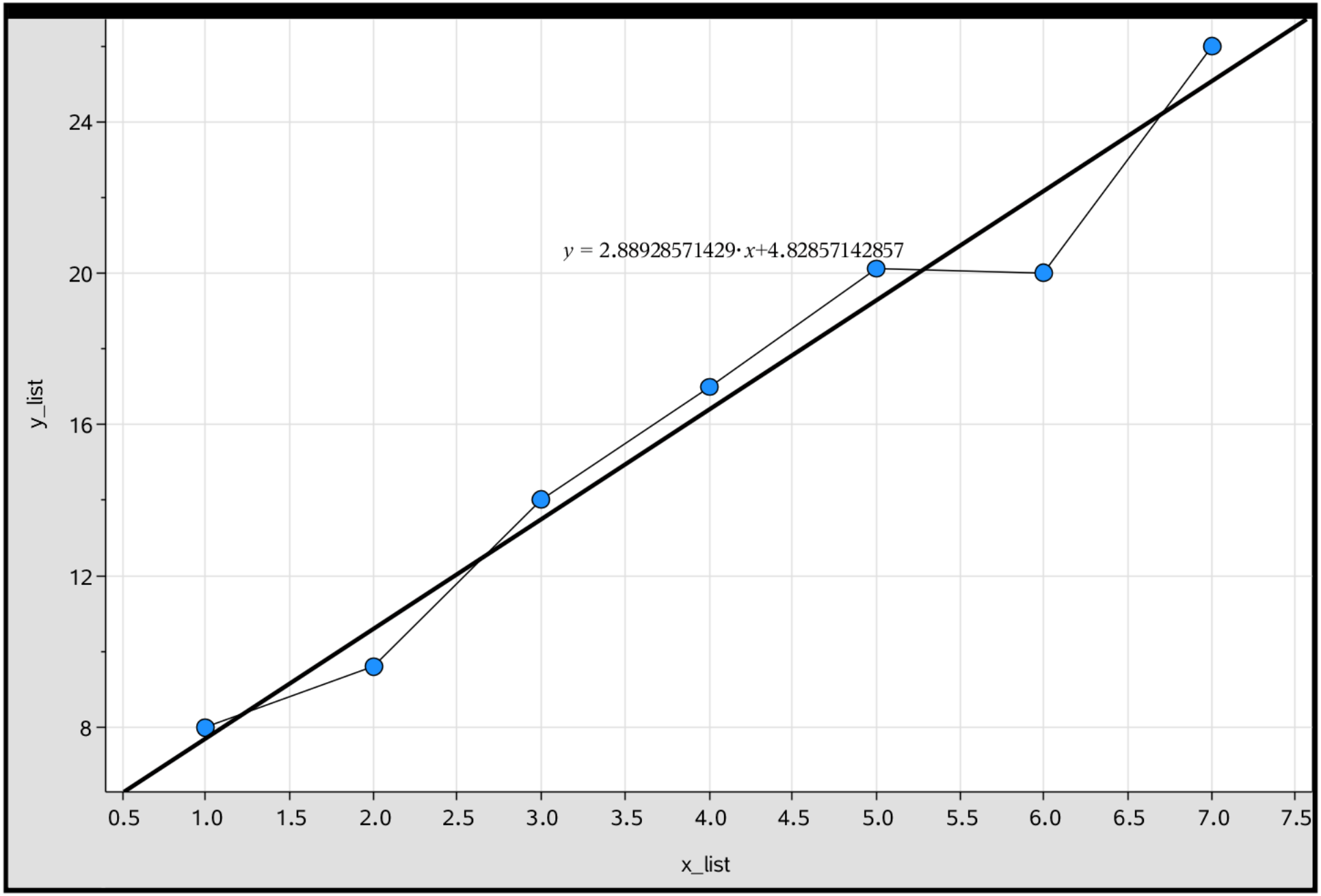
The line of best fit is y $\approx 2.89\cdot x+4.83$

Problem 2

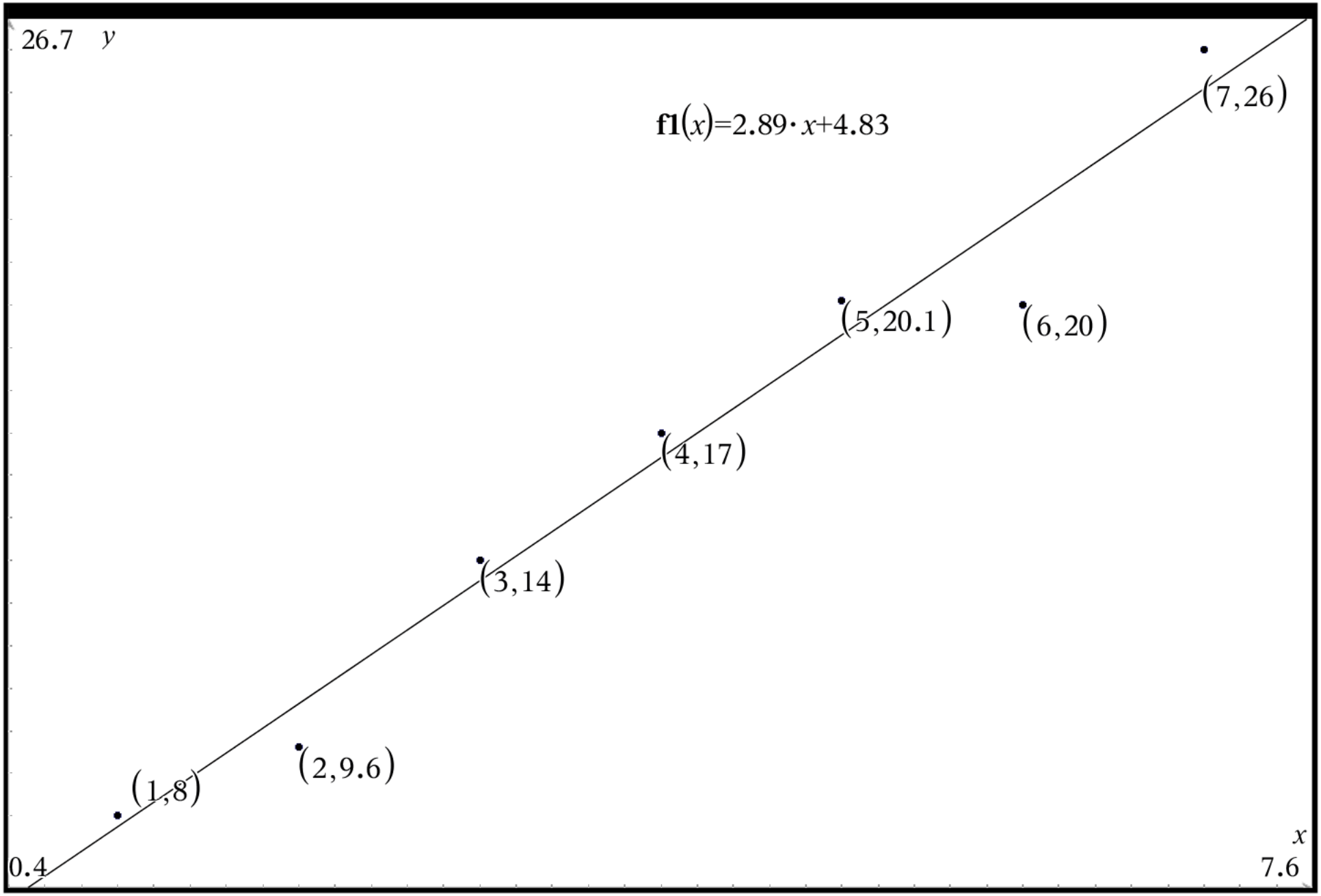
	A x_list	B y_list	C	D	E	F	G	H	I
=					=LinRegMx('x_list,'y				
1	1	8		Title	Linear Regression...				
2	2	9.6		RegEqn	m*x+b				
3	3	14		m	2.88928571429				
4	4	17		b	4.82857142857				
5	5	20.1		r^2	0.96696560487				
6	6	20		r	0.983344092813				
7	7	26		Resid	{0.282142857142...				
8									
9									
10									
11									
12									
13									
14									
15									

B8

Problem 2


y = 2.88928571429·x+4.82857142857
y_list
x_list
24
20
16
12
8
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

Problem 2



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
=			=x_list*y_l	=x_list^2	=y_list^2					=x
1	1	8	8	1	64	sum_x	**28**			
2	2	9.6	19.2	4	92.16	sum_y	**114.7**			
3	3	14	42	9	196	sum_xy	**539.7**			
4	4	17	68	16	289	sum_sqx	**140**			
5	5	20.1	100.5	25	404.01	sum_sqy	**2121.17**			
6	6	20	120	36	400	sq_sumx	**784**			
7	7	26	182	49	676	sq_sumy	**13156.09**			
8						n	**7**			
9										
10										
11										
12										
13										

A1 =1