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

sum of all products of x and y = $^{-}770.5$

sum of all squares of x = 204 sum of all squares of y = 2952.46

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

n = 8

TOP = $8(^{-}770.5)-36(^{-}142.8)=^{-}1023.2$

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

B = $8(2952.46)-(^{-}142.8)^2=8(2952.46)-20391.84=3227.84$

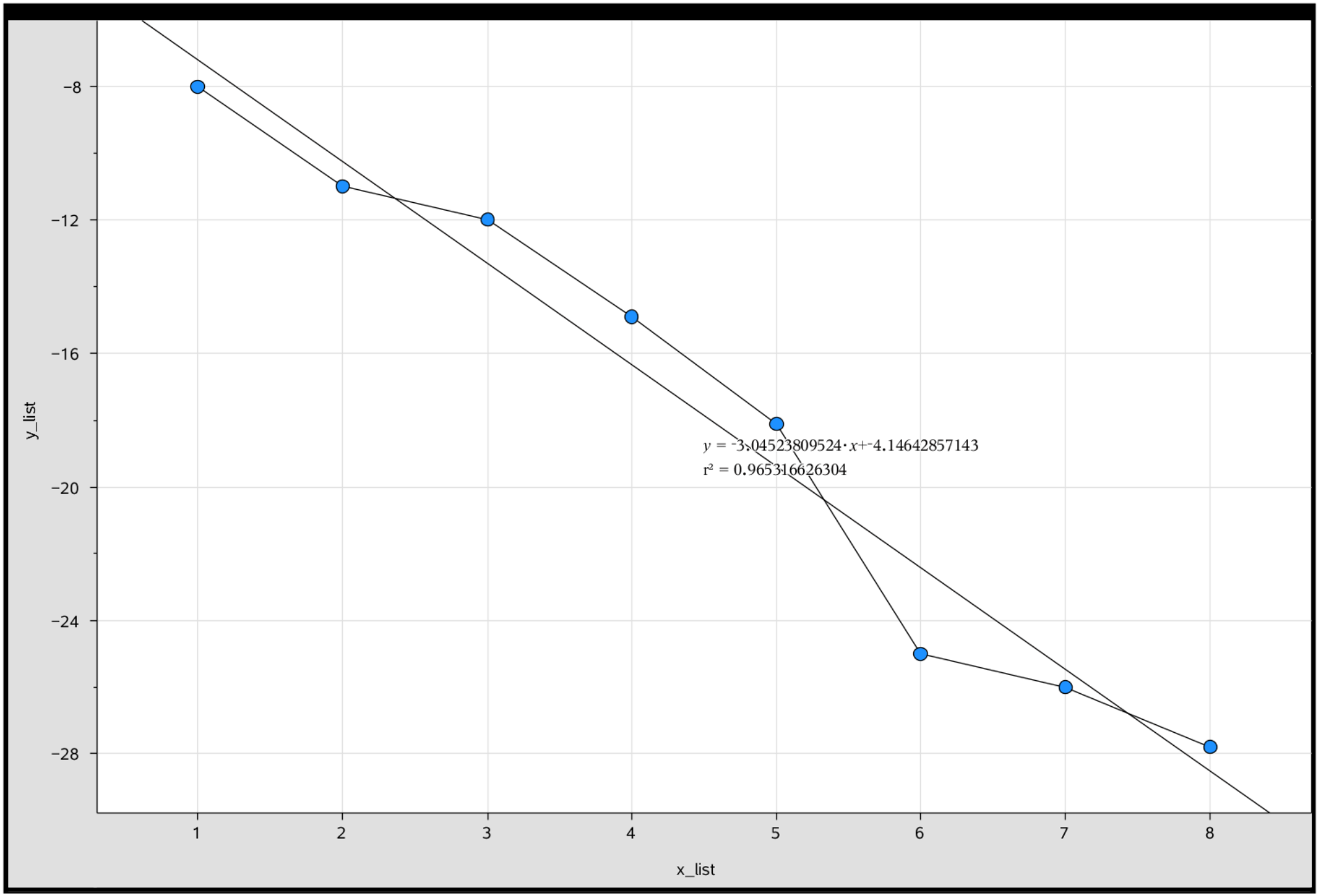
$$r=\frac{TOP}{\sqrt{A}\sqrt{B}}=\frac{^{-}1023.2}{\sqrt{336}\cdot\sqrt{3227.84}}=^{-}0.982505280547$$

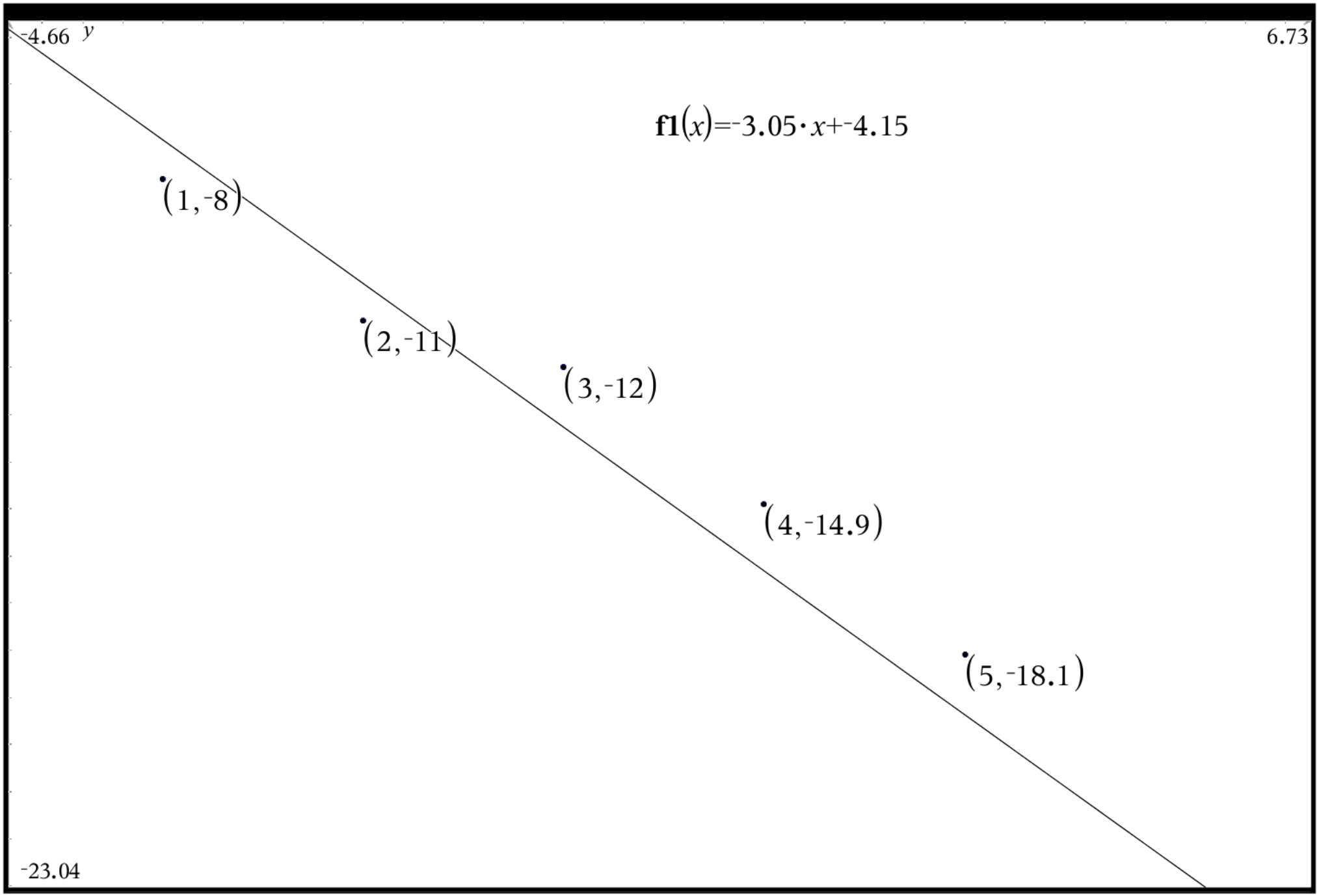
This has STRONG negative correlation

The line of best fit is y ≈ $^{-}3.05\cdot x-4.15$

	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	-11		RegEqn	m*x+b							
3	3	-12		m	-3.04523809524							
4	4	-14.9		b	-4.14642857143							
5	5	-18.1		r^2	0.965316626304							
6	6	-25		r	-0.982505280547							
7	7	-26		Resid	{-0.808333333333..							
8	8	-27.8										
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												

B6 -25


−8
−12
−16
−20
−24
−28
y_list
1
2
3
4
5
6
7
8
x_list
y = ⁻3.04523809524·x+⁻4.14642857143
r² = 0.965316626304


-4.66
y
6.73
f1(x)=-3.05·x+-4.15
(1,-8)
(2,-11)
(3,-12)
(4,-14.9)
(5,-18.1)
-23.04

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	**36**			1			T
2	2	-11	-22	4	121	sum_y	**-142.8**			1			R
3	3	-12	-36	9	144	sum_xy	**-770.5**			1		**-3.0452...**	m
4	4	-14.9	-59.6	16	222.01	sum_sqx	**204**			1		**-4.1464...**	b
5	5	-18.1	-90.5	25	327.61	sum_sqy	**2952.46**			1			r^2
6	6	-25	-150	36	625	sq_sumx	**1296**			1		**-0.9825...**	r
7	7	-26	-182	49	676	sq_sumy	**20391.84**			1			R
8	8	-27.8	-222.4	64	772.84	n	**8**			1			
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													

A1 1

sum of all x =28 sum of all y = 115.7

sum of all products of x and y =546.7

sum of all squares of x = 140 sum of all squares of y = 2169.57

SQUARE of the sum of all x = 784 SQUARE of the sum of all y = 13386.49

n = 7

TOP = $7(546.7)-28(115.7)=587.3$

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

B = $7(2169.57)-(115.7)^2=7(2169.57)-13386.49=1800.5$

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

This has STRONG positive correlation

The line of best fit is y ≈ $3.\cdot x+4.54$

	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	10.6		RegEqn	m*x+b							
3	3	13		m	2.99642857143							
4	4	15		b	4.54285714286							
5	5	21.1		r^2	0.977396556512							
6	6	23		r	0.98863368166							
7	7	25		Resid	{0.460714285714...							
8												
9												
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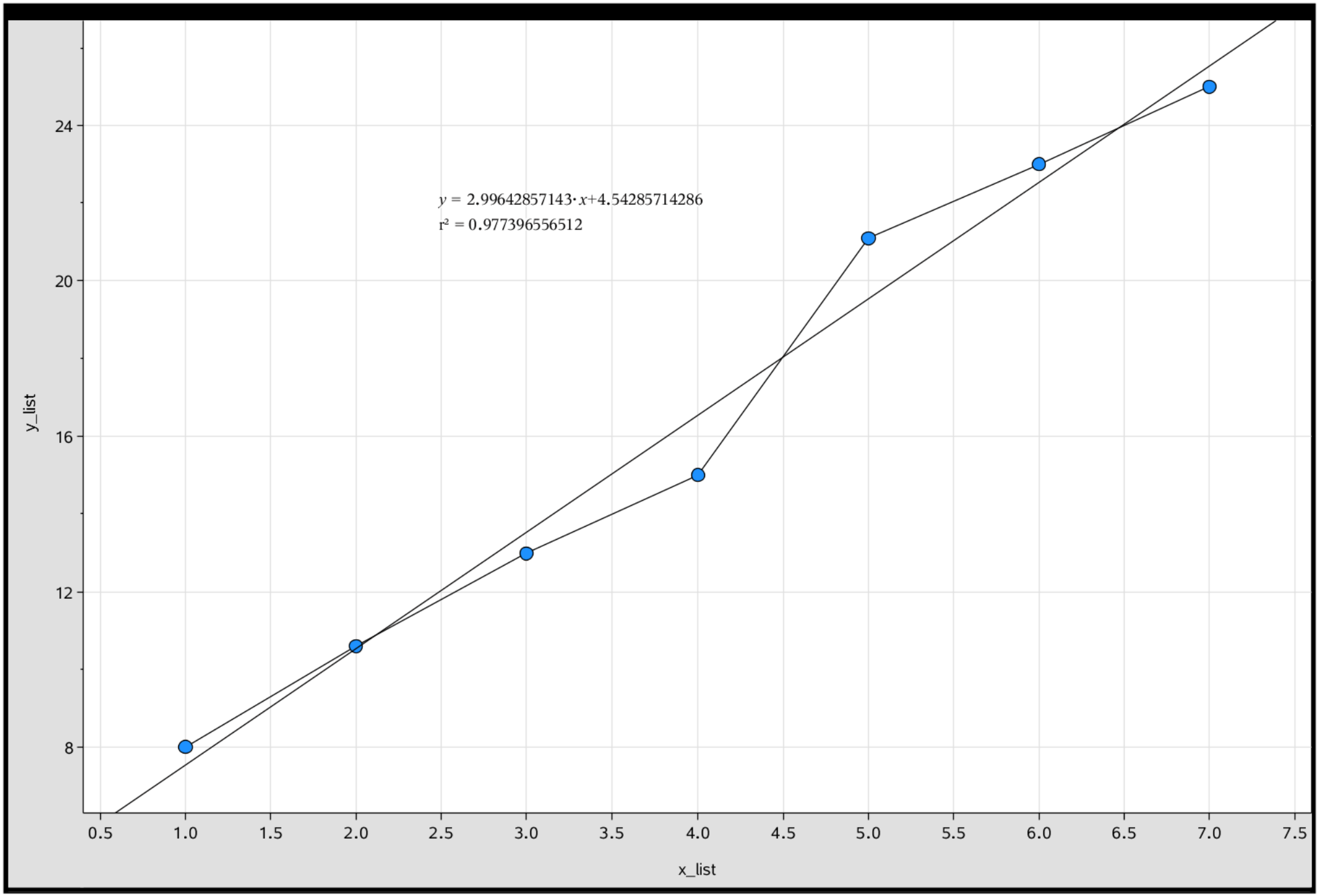
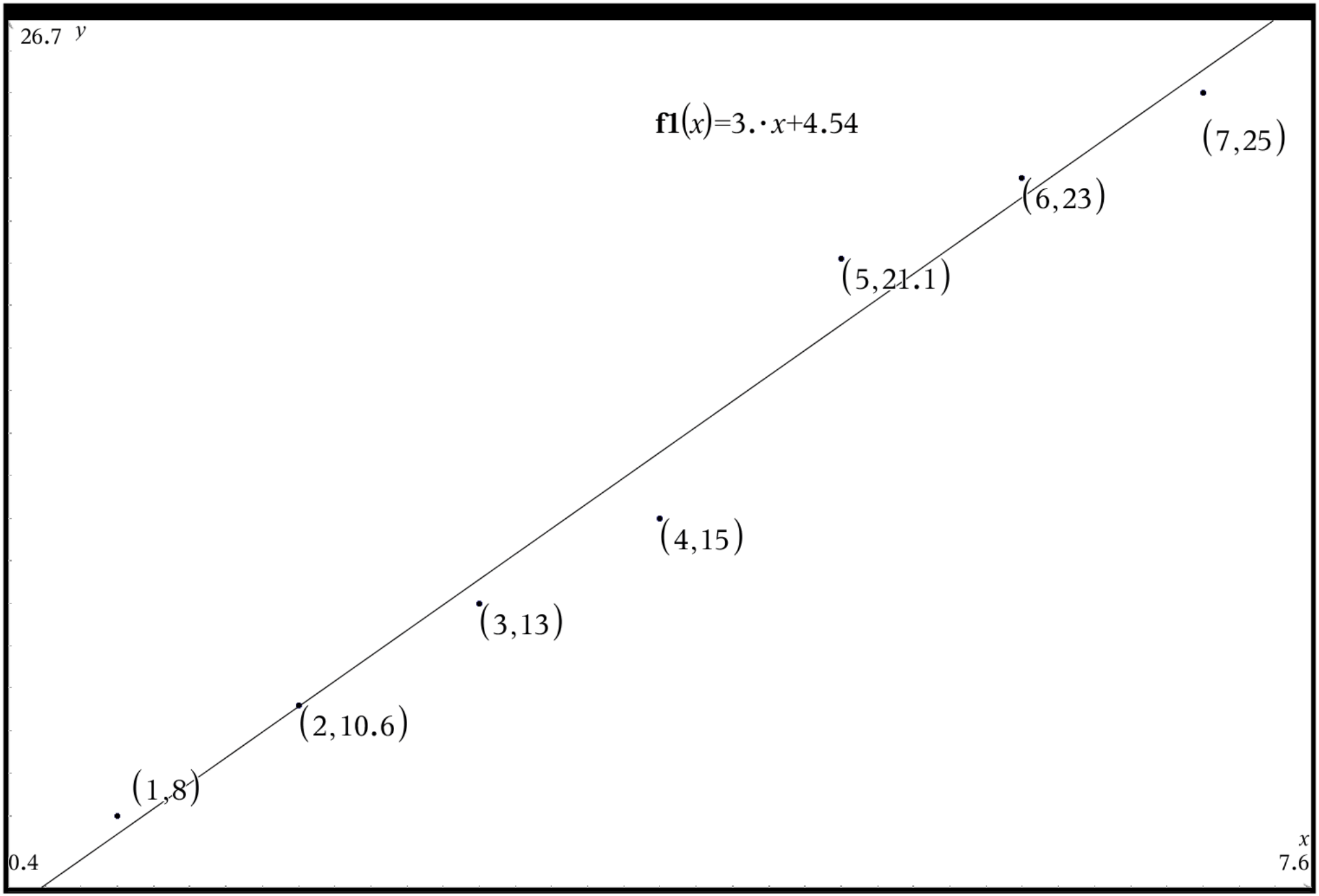
21												


y = 2.99642857143·x+4.54285714286
r² = 0.977396556512
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


26.7 y
f1(x)=3.·x+4.54
(7,25)
(6,23)
(5,21.1)
(4,15)
(3,13)
(2,10.6)
(1,8)
0.4
x
7.6

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	10.6	21.2	4	112.36	sum_y	**115.7**			1			R
3	3	13	39	9	169	sum_xy	**546.7**			1		**2.99642...**	m
4	4	15	60	16	225	sum_sqx	**140**			1		**4.54285...**	b
5	5	21.1	105.5	25	445.21	sum_sqy	**2169.57**			1			r^2
6	6	23	138	36	529	sq_sumx	**784**			1		**0.98863...**	r
7	7	25	175	49	625	sq_sumy	**13386.49**			1			R
8						n	**7**						
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													

A1 =1