Linear & Exponential Regression from Data · 1

Find the least-squares regression line y = mx + b for the data in the table.

x	2	3	4	5	6
y	19	20	18	18	15

Linear & Exponential Regression from Data · 2

The least-squares line for the data is y = -2x + 18. Find the residual for the point where x = 1.

x	1	2	3	4	5
y	14	18	12	6	10

Linear & Exponential Regression from Data · 3

An exponential model $y = a(b)^x$ passes through (0, 5) and (2, 45). Write the model.

Linear & Exponential Regression from Data · 4

An exponential regression for the mass of a medicine in the body in mg after x hours gives $y = 400(0.72)^x$. Predict y when x = 2. Round to the nearest tenth.

Linear & Exponential Regression from Data · 5

Use the least-squares regression line for the data to predict y when x = 14.

x	2	4	6	8	10
y	16	18	14	14	8

Linear & Exponential Regression from Data · 6

An exponential model $y = a(b)^x$ passes through (1, 48) and (3, 12). Write the model.

Linear & Exponential Regression from Data · 7

A calculator gives the correlation coefficient r = -0.94 for a data set. Which describes the data? (A) a strong positive linear relationship (B) a weak positive linear relationship (C) a strong negative linear relationship (D) a weak negative linear relationship

Linear & Exponential Regression from Data · 8

Find the least-squares regression line y = mx + b for the data in the table.

x	2	4	6	8	10
y	0	8	12	12	8

Linear & Exponential Regression from Data · 2

ANSWER

-2

Linear & Exponential Regression from Data · 1

ANSWER

$y = -x + 22$

Linear & Exponential Regression from Data · 4

ANSWER

207.4

Linear & Exponential Regression from Data · 3

ANSWER

$y = 5(3)^x$

Linear & Exponential Regression from Data · 6

ANSWER

$y = 96(0.5)^x$

Linear & Exponential Regression from Data · 5

ANSWER

6

Linear & Exponential Regression from Data · 8

ANSWER

$y = x + 2$

Linear & Exponential Regression from Data · 7

ANSWER

C

Find the least-squares regression line y = mx + b for the data in the table.

x	1	2	3	4	5
y	7	9	10	15	19

The least-squares line for the data is y = x + 4. Find the residual for the point where x = 5.

x	1	2	3	4	5
y	7	4	7	6	11

An exponential model $y = a(b)^x$ passes through (0, 100) and (1, 80). Write the model.

An exponential regression for the mass of a medicine in the body in mg after x hours gives $y = 400(0.72)^x$. Predict y when x = 8. Round to the nearest tenth.

Use the least-squares regression line for the data to predict y when x = 12.

x	2	4	6	8	10
y	1	8	13	16	17

An exponential model $y = a(b)^x$ passes through (1, 24) and (3, 54). Write the model.

A calculator gives the correlation coefficient r = 0.31 for a data set. Which describes the data? (A) a strong positive linear relationship (B) a weak positive linear relationship (C) a strong negative linear relationship (D) a weak negative linear relationship

Find the least-squares regression line y = mx + b for the data in the table.

x	1	3	5	7	9
y	2	13	22	29	34

Linear & Exponential Regression from Data · 10

ANSWER

2

Linear & Exponential Regression from Data · 9

ANSWER

$y = 3x + 3$

Linear & Exponential Regression from Data · 12

ANSWER

28.9

Linear & Exponential Regression from Data · 11

ANSWER

$y = 100(0.8)^x$

Linear & Exponential Regression from Data · 14

ANSWER

$y = 16(1.5)^x$

Linear & Exponential Regression from Data · 13

ANSWER

23

Linear & Exponential Regression from Data · 16

ANSWER

$y = 4x$

Linear & Exponential Regression from Data · 15

ANSWER

B

Find the least-squares regression line y = mx + b for the data in the table.

x	3	5	7	9	11
y	18	10	16	6	10

The least-squares line for the data is y = x + 3. Find the residual for the point where x = 1.

x	1	3	5	7	9
y	6	2	8	14	10

An exponential model $y = a(b)^x$ passes through (0, 5) and (3, 40). Write the model.

Use the least-squares regression line for the data to predict y when x = 16.

x	2	4	6	8	10
y	10	23	34	43	50

An exponential model $y = a(b)^x$ passes through (1, 10) and (3, 40). Write the model.

A calculator gives the correlation coefficient r = -0.89 for a data set. Which describes the data? (A) a strong positive linear relationship (B) a weak positive linear relationship (C) a strong negative linear relationship (D) a weak negative linear relationship

Find the least-squares regression line y = mx + b for the data in the table.

x	2	4	6	8	10
y	25	16	17	18	9

Find the least-squares regression line y = mx + b for the data in the table.

x	3	4	5	6	7
y	11	7	17	11	19

Linear & Exponential Regression from Data · 18

ANSWER

2

Linear & Exponential Regression from Data · 17

ANSWER

$y = -x + 19$

Linear & Exponential Regression from Data · 20

ANSWER

82

Linear & Exponential Regression from Data · 19

ANSWER

$y = 5(2)^x$

Linear & Exponential Regression from Data · 22

ANSWER

C

Linear & Exponential Regression from Data · 21

ANSWER

$y = 5(2)^x$

Linear & Exponential Regression from Data · 24

ANSWER

$y = 2x + 3$

Linear & Exponential Regression from Data · 23

ANSWER

$y = -1.5x + 26$