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

x	2	3	4	5	6
y	14	15	21	27	28

An exponential model $y = a(b)^x$ passes through (0, 100) and (2, 64). Write the model.

A calculator gives the correlation coefficient r = 0.27 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

Use the least-squares regression line for the data to predict y when x = 6.

x	1	2	3	4	5
y	12	17	19	23	24

Use the least-squares regression line for the data to predict y when x = 9.

x	2	3	4	5	6
y	6	12	15	20	22

Use the least-squares regression line for the data to predict y when x = 6.

x	1	2	3	4	5
y	-1	3	4	7	7

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

x	3	4	5	6	7
y	3	5	3	7	7

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

x	1	2	3	4	5
y	9	11	16	19	25

Linear & Exponential Regression from Data · 2

ANSWER

$y = 100(0.8)^x$

Linear & Exponential Regression from Data · 1

ANSWER

$y = 4x + 5$

Linear & Exponential Regression from Data · 4

ANSWER

28

Linear & Exponential Regression from Data · 3

ANSWER

B

Linear & Exponential Regression from Data · 6

ANSWER

10

Linear & Exponential Regression from Data · 5

ANSWER

35

Linear & Exponential Regression from Data · 8

ANSWER

$y = 4x + 4$

Linear & Exponential Regression from Data · 7

ANSWER

$y = x$

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

x	3	4	5	6	7
y	4	2	7	4	8

Use the least-squares regression line for the data to predict y when x = 9.

x	2	3	4	5	6
y	17	17	13	15	13

The least-squares line for the data is y = -3x + 26. Find the residual for the point where x = 5.

x	1	2	3	4	5
y	24	18	17	16	10

An exponential model $y = a(b)^x$ passes through (0, 16) and (1, 24). Write the model.

A calculator gives the correlation coefficient r = -0.86 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

An exponential regression for the number of app downloads in thousands after x weeks gives $y = 12(1.35)^x$. Predict y when x = 5. Round to the nearest tenth.

A calculator gives the correlation coefficient r = -0.27 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

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

x	1	2	3	4	5
y	7	13	16	21	23

Linear & Exponential Regression from Data · 10

ANSWER

10

Linear & Exponential Regression from Data · 9

ANSWER

y = x

Linear & Exponential Regression from Data · 12

ANSWER

$y = 16(1.5)^x$

Linear & Exponential Regression from Data · 11

ANSWER

-1

Linear & Exponential Regression from Data · 14

ANSWER

53.8

Linear & Exponential Regression from Data · 13

ANSWER

C

Linear & Exponential Regression from Data · 16

ANSWER

1

Linear & Exponential Regression from Data · 15

ANSWER

D

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

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

Use the least-squares regression line for the data to predict y when x = 8.

x	1	2	3	4	5
y	-1	5	4	11	11

The least-squares line for the data is y = -x + 13. Find the residual for the point where x = 4.

x	3	4	5	6	7
y	11	7	10	5	7

An exponential model $y = a(b)^x$ passes through (0, 80) and (2, 20). Write the model.

A calculator gives the correlation coefficient r = -0.91 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

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 = 4. Round to the nearest tenth.

An exponential model $y = a(b)^x$ passes through (0, 6) and (3, 48). Write the model.

An exponential regression for the value of a coin collection in dollars after x years gives $y = 800(1.06)^x$. Predict y when x = 2. Round to the nearest tenth.

Linear & Exponential Regression from Data · 18

ANSWER

21

Linear & Exponential Regression from Data · 17

ANSWER

y = x - 1

Linear & Exponential Regression from Data · 20

ANSWER

$y = 80(0.5)^x$

Linear & Exponential Regression from Data · 19

ANSWER

-2

Linear & Exponential Regression from Data · 22

ANSWER

107.5

Linear & Exponential Regression from Data · 21

ANSWER

C

Linear & Exponential Regression from Data · 24

ANSWER

898.9

Linear & Exponential Regression from Data · 23

ANSWER

$y = 6(2)^x$