Task card 1 Linear & Exponential Regression fr...

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

x	3	4	5	6	7
y	14	18	26	28	34

Task card 2 Linear & Exponential Regression fr...

The least-squares line for the data is $y = -0.5x + 18$. Find the residual for the point where $x = 8$.

x	2	4	6	8	10
y	17	17	13	15	13

Task card 3 Linear & Exponential Regression fr...

An exponential model $y = a(b)^x$ passes through (0, 5) and (1, 15). Write the model.

Task card 4 Linear & Exponential Regression fr...

An exponential regression for the temperature difference of cooling tea in °F after x minutes gives $y = 140(0.9)^x$. Predict y when $x = 10$. Round to the nearest tenth.

Task card 5 Linear & Exponential Regression fr...

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

x	4	6	8	10	12
y	11	14	9	16	15

Task card 6 Linear & Exponential Regression fr...

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

Task card 7 Linear & Exponential Regression fr...

A calculator gives the correlation coefficient $r = 0.24$ 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

Task card 8 Linear & Exponential Regression fr...

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

x	2	4	6	8	10
y	18	15	8	7	2

Task card 9 Linear & Exponential Regression fr...

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

x	1	3	5	7	9
y	9	15	15	19	17

Task card 10 Linear & Exponential Regression fr...

The least-squares line for the data is $y = 2.5x + 3$. Find the residual for the point where $x = 2$.

x	0	2	4	6	8
y	2	10	11	20	22

Task card 11 Linear & Exponential Regression fr...

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

Task card 12 Linear & Exponential Regression fr...

An exponential regression for the value of a car in dollars after x years gives $y = 24000(0.85)^x$. Predict y when $x = 8$. Round to the nearest tenth.

Task card 13 Linear & Exponential Regression fr...

Use the least-squares regression line for the data to predict y when x = 18.

x	4	6	8	10	12
y	8	3	2	5	12

Task card 14 Linear & Exponential Regression fr...

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

Task card 15 Linear & Exponential Regression fr...

A calculator gives the correlation coefficient r = -0.24 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

Task card 16 Linear & Exponential Regression fr...

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

x	2	4	6	8	10
y	9	8	15	10	13

Task card 17 Linear & Exponential Regression fr...

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

x	4	6	8	10	12
y	10	21	22	23	34

Task card 18 Linear & Exponential Regression fr...

The least-squares line for the data is y = -x + 23. Find the residual for the point where x = 2.

x	2	3	4	5	6
y	19	20	23	18	15

Task card 19 Linear & Exponential Regression fr...

An exponential model $y = a(b)^x$ passes through (0, 5) and (2, 20). Write the model.

Task card 20 Linear & Exponential Regression fr...

An exponential regression for the temperature difference of cooling tea in °F after x minutes gives $y = 140(0.9)^x$. Predict y when x = 9. Round to the nearest tenth.

Task card 21 Linear & Exponential Regression fr...

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

x	4	6	8	10	12
y	8	15	19	25	28

Task card 22 Linear & Exponential Regression fr...

An exponential model $y = a(b)^x$ passes through (1, 6) and (3, 24). Write the model.

Task card 23 Linear & Exponential Regression fr...

A calculator gives the correlation coefficient r = 0.18 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

Task card 24 Linear & Exponential Regression fr...

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

x	4	6	8	10	12
y	17	11	7	5	5

Linear & Exponential Regression from Data Task Cards

Recording sheet · Grade 11 · Solve each problem. Write lines as y = mx + b and exponential models as y = a(b)^x. Round only where the problem says. For lettered choices, write the letter.

Scan to check your answers

Name: _____ Date: _____

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

Linear & Exponential Regression from Data Task Cards: Answer Key

Grade 11 · Hard

The answers online

1. y = 5x - 1	**2.** 1	**3.** $y = 5(3)^x$
4. 48.8	**5.** 16	**6.** $y = 5(2)^x$
7. B	**8.** y = -2x + 22	**9.** y = x + 10
10. 2	**11.** $y = 5(2)^x$	**12.** 6539.8
13. 11	**14.** $y = 16(1.5)^x$	**15.** D
16. y = 0.5x + 8	**17.** y = 2.5x + 2	**18.** -2
19. $y = 5(2)^x$	**20.** 54.2	**21.** 39
22. $y = 3(2)^x$	**23.** B	**24.** y = -1.5x + 21