Task card 1 Linear & Exponential Regression fr...

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

Task card 2 Linear & Exponential Regression fr...

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

Task card 3 Linear & Exponential Regression fr...

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

Task card 4 Linear & Exponential Regression fr...

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.

Task card 5 Linear & Exponential Regression fr...

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

Task card 6 Linear & Exponential Regression fr...

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

Task card 7 Linear & Exponential Regression fr...

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

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	0	8	12	12	8

Task card 9 Linear & Exponential Regression fr...

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

Task card 10 Linear & Exponential Regression fr...

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

Task card 11 Linear & Exponential Regression fr...

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

Task card 12 Linear & Exponential Regression fr...

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.

Task card 13 Linear & Exponential Regression fr...

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

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 = 0.31 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

Task card 16 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	2	13	22	29	34

Task card 17 Linear & Exponential Regression fr...

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

Task card 18 Linear & Exponential Regression fr...

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

Task card 19 Linear & Exponential Regression fr...

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

Task card 20 Linear & Exponential Regression fr...

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

Task card 21 Linear & Exponential Regression fr...

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

Task card 22 Linear & Exponential Regression fr...

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

Task card 23 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	25	16	17	18	9

Task card 24 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	11	7	17	11	19

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 · Medium

The answers online

1. $y = -x + 22$	**2.** -2	**3.** $y = 5(3)^x$
4. 207.4	**5.** 6	**6.** $y = 96(0.5)^x$
7. C	**8.** $y = x + 2$	**9.** $y = 3x + 3$
10. 2	**11.** $y = 100(0.8)^x$	**12.** 28.9
13. 23	**14.** $y = 16(1.5)^x$	**15.** B
16. $y = 4x$	**17.** $y = -x + 19$	**18.** 2
19. $y = 5(2)^x$	**20.** 82	**21.** $y = 5(2)^x$
22. C	**23.** $y = -1.5x + 26$	**24.** $y = 2x + 3$