Task card 1 Linear Regression & Correlation

The least-squares line $\hat{y} = -40 + 1.6x$ predicts y = number of lemonade cups sold from x = daily high temperature in °F. Predict y when x = 86.

Task card 2 Linear Regression & Correlation

The least-squares line $\hat{y} = 22 + 1.2x$ predicts y = free throws made out of 50 from x = hours of practice per week. One data point has x = 10 and y = 33.5. Find its residual.

Task card 3 Linear Regression & Correlation

The least-squares line $\hat{y} = 640 - 15x$ predicts y = number of tickets sold from x = ticket price in dollars. One data point has x = 12 and y = 462. Find its residual.

Task card 4 Linear Regression & Correlation

The least-squares line $\hat{y} = -12 + 0.8x$ predicts y = number of lemonade cups sold from x = daily high temperature in °F. Predict y when x = 68.

Task card 5 Linear Regression & Correlation

The least-squares line $\hat{y} = 55 + 4.2x$ predicts y = test score from x = hours studied. One data point has x = 7 and y = 81.4. Find its residual.

Task card 6 Linear Regression & Correlation

A data set has correlation r = 0.88. Which best describes the correlation? (A) strong positive (B) weak positive (C) strong negative (D) weak negative (E) no correlation

Task card 7 Linear Regression & Correlation

A least-squares line has correlation r = -0.9. What percent of the variation in y is explained by the linear relationship with x?

Task card 8 Linear Regression & Correlation

The least-squares line $\hat{y} = 5 + 2.8x$ predicts y = commute time in minutes from x = distance from school in miles. What does the y-intercept 5 mean? (A) When the commute time is 0, x is 5. (B) When x is 0, the predicted commute time is 5 minutes. (C) For each additional mile, the predicted commute time increases by 5 minutes. (D) The commute time is always at least 5 minutes.

Task card 9 Linear Regression & Correlation

The least-squares line $\hat{y} = 18 + 1.2x$ predicts y = free throws made out of 50 from x = hours of practice per week. Predict y when x = 9.

Task card 10 Linear Regression & Correlation

The least-squares line $\hat{y} = 18 + 1.8x$ predicts y = free throws made out of 50 from x = hours of practice per week. One data point has x = 3 and y = 22. Find its residual.

Task card 11 Linear Regression & Correlation

A data set has correlation r = -0.03. Which best describes the correlation? (A) strong positive (B) weak positive (C) strong negative (D) weak negative (E) no correlation

Task card 12 Linear Regression & Correlation

A least-squares line has correlation r = 0.7. What percent of the variation in y is explained by the linear relationship with x?

Task card 13 Linear Regression & Correlation

A data set has correlation r = -0.01. Which best describes the correlation? (A) strong positive (B) weak positive (C) strong negative (D) weak negative (E) no correlation

Task card 14 Linear Regression & Correlation

The least-squares line $\hat{y} = 28 - 2.4x$ predicts y = value of the car in thousands of dollars from x = age of a car in years. Predict y when x = 9.

Task card 15 Linear Regression & Correlation

The least-squares line $\hat{y} = 30.2 - 1.8x$ predicts y = value of the car in thousands of dollars from x = age of a car in years. One data point has x = 1 and y = 30.5. Find its residual.

Task card 16 Linear Regression & Correlation

The least-squares line $\hat{y} = 28 - 2.4x$ predicts y = value of the car in thousands of dollars from x = age of a car in years. Predict y when x = 2.

Task card 17 Linear Regression & Correlation

The least-squares line $\hat{y} = 900 - 15x$ predicts y = number of tickets sold from x = ticket price in dollars. Predict y when x = 33.

Task card 18 Linear Regression & Correlation

The least-squares line $\hat{y} = 24.5 - 2.4x$ predicts y = value of the car in thousands of dollars from x = age of a car in years. One data point has x = 6 and y = 8.3. Find its residual.

Task card 19 Linear Regression & Correlation

The least-squares line $\hat{y} = 20.5 + 1.8x$ predicts y = free throws made out of 50 from x = hours of practice per week. Predict y when x = 9.

Task card 20 Linear Regression & Correlation

The least-squares line $\hat{y} = 55 + 2.5x$ predicts y = test score from x = hours studied. One data point has x = 10 and y = 75.1. Find its residual.

Task card 21 Linear Regression & Correlation

A data set has correlation r = 0.02. Which best describes the correlation? (A) strong positive (B) weak positive (C) strong negative (D) weak negative (E) no correlation

Task card 22 Linear Regression & Correlation

The least-squares line $\hat{y} = 52.5 + 3.5x$ predicts y = test score from x = hours studied. What does the y-intercept 52.5 mean? (A) When the test score is 0, x is 52.5. (B) The test score is always at least 52.5 points. (C) When x is 0, the predicted test score is 52.5 points. (D) For each additional hour, the predicted test score increases by 52.5 points.

Task card 23 Linear Regression & Correlation

A least-squares line has correlation r = -0.7. What percent of the variation in y is explained by the linear relationship with x?

Task card 24 Linear Regression & Correlation

The least-squares line $\hat{y} = -25.5 + 0.8x$ predicts y = number of lemonade cups sold from x = daily high temperature in °F. Predict y when x = 74.

Linear Regression & Correlation Task Cards

Recording sheet · Grade 12 · Solve each problem. Residual = actual - predicted. Give percents for r^2 like 64%. For lettered choices, write the letter.

Name: _____ Date: _____

Scan to check your answers

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 Regression & Correlation Task Cards: Answer Key

Grade 12 · Easy

The answers online

1. 97.6	**2.** -0.5	**3.** 2
4. 42.4	**5.** -3	**6.** A
7. 81%	**8.** B	**9.** 28.8
10. -1.4	**11.** E	**12.** 49%
13. E	**14.** 6.4	**15.** 2.1
16. 23.2	**17.** 405	**18.** -1.8
19. 36.7	**20.** -4.9	**21.** E
22. C	**23.** 49%	**24.** 33.7