

13.4	3.1
16.5	2.1
8.2	2.3
21	8.2

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× Not quite right - check out the answer explanation.

$$r = .12$$

Answer Explanation

Correct answers:

$$r = 0.08$$

The correlation coefficient can be calculated easily with Excel using the built-in CORREL function.

Open the accompanying data set in Excel.

In an open-cell, type "`=CORREL(A2:A31,B2:B31)`", and then hit **ENTER**.

You could label the result of this cell by writing "Correlation coefficient" or "r" in an adjacent open cell.

The correlation coefficient, rounded to two decimal places, is $r \approx 0.08$.

Question

The table shows data collected on the relationship between time spent playing video games and time spent with family. The line of best fit for the data is $\hat{y} = -0.24x + 71.7$. Assume the line of best fit is significant and there is a significant relationship between the variables.

Video Games (Minutes)	Time with Family (Minutes)
45	61
60	57
75	54
90	50

(a) According to the line of best fit, what would be the predicted number of minutes spent with family if a person spent **87** minutes playing video games? Round your answer to two decimal places.

Provide your answer below:

The predicted number of minutes spent with family is .

Question

In **2022**, the CDC published data on the average weight of American female children by year. Using age in years as the x variable and weight in pounds as the y variable, researchers made a linear regression with age in years as the x variable and weight in pounds as the y variable. The equation of the line of best fit is $\hat{y} = 5.78x + 17.56$.

According to the line of best fit, what would you predict the weight would be for a **14**-year-old female? Is this line of best fit to make this prediction?

Select the correct answer below:

- ☐ The predicted weight is **124.75**, and the estimate is reliable and reasonable.
- ☒ The predicted weight is **124.75**, and the estimate is less reliable and unreasonable.
- ☐ The predicted weight is **124.75**, and the estimate is less reliable and reasonable.
- ☐ The predicted weight is **98.48**, and the estimate is reliable and reasonable.
- ☐ The predicted weight is **98.48**, and the estimate is less reliable and reasonable.
- ☐ The predicted weight is **98.48**, and the estimate is less reliable and unreasonable.

(a) According to the line of best fit, the predicted number of daily temperature of 39 degrees is 64.21.

(b) Is it reasonable to use this line of best fit to make the a

× **Not quite - review the answer explanation to help get t**

- ☒ The estimate, a predicted time of 64.21 minutes, is both reasonable and re
- ☐ The estimate, a predicted time of 64.21 minutes, is unreliable but reasona
- ☐ The estimate, a predicted time of 64.21 minutes, is reliable but unreasona
- ☐ The estimate, a predicted time of 64.21 minutes, is both unreasonable and

$$y = 7.00x + -292.02$$

Answer Explanation

$$y = 1x + 2$$

Correct answers:

1	7.00	2	-292.02
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To find the best fit for the given data, use Excel.

1. Open Excel. Enter the values for x in column A and y in column B. Highlight all the cells containing the data.
2. From the Insert tab, select **Scatter**. Use **Scatter with only Markers**, the first type of scatter chart. A simple plot is shown.
3. To add the linear fit to the graph, click anywhere inside the graph area. Select the **Layout** tab from the **Chart Tools**. Click on the **Trendline** icon and select the **Linear Trendline** option. The line of best fit is added to the graph.
4. For the equation of the line of best fit, click on **Trendline** and select **More Trendline Options**. Check the **Display Equation on the chart** box. The equation of the line of best fit is shown on the graph.

Optional Instructions: Right-click on the **Trendline** and select **Format Trendline**. Select **Linear** on the right side of the screen and select **Display Equation on chart**.

5. To change the number of decimal places in the trendline equation, right-click on the equation for the trendline and select **Format Trendline Label....**

6. Select **Number** under Category, change the number of decimal places to 2, and click **Close**. Thus, the equation of the line of best fit with slope and intercept rounded to two decimal places is $\hat{y} = 7.00x + (-292.02)$.

$$y = .52x - 22.18$$

Answer Explanation

$$y = 1x - 2$$

Correct answers:

1	0.52	2	22.18
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To find the best fit for the given data, use Excel.

1. Open Excel. Enter the values for x in column A and y in column B. Highlight all the cells containing the data.
2. From the Insert tab, select **Scatter**. Use **Scatter with only Markers**, the first type of scatter chart. A simple plot is shown.
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5. To change the number of decimal places in the trendline equation, right-click on the equation for the trendline and select **Format Trendline Label...**

6. Select **Number** under Category, change the number of decimal places to **2**, and click **Close**. Thus, the equation of line of best fit with slope and intercept rounded to two decimal places is $\hat{y} = 0.52x - 22.18$.

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