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Reflect on the Question ✓   Analyze the Data ✓   Draw Conclusions

Primary Research Question

How have the world record times for the men's and the women's mile event changed over the years?

(8/8 points)

Write Your Conclusion

Based on scatterplots of the men's and women's world record mile event, both of these events follow a strong, negative negative relationship over time. For both groups, the assumption of linearity appears to be satisfied. The men's world record mile time decreases by an average of .393 .393 seconds per year, while the womens record distance decreases by an average of .973 .973 seconds per year. Because the intercept intercept estimate is the value of the record distance when year is equal to 0, it is not interpretable in the context of the problem. Both linear models fit the data well, with R-squared values for the mens and womens models equal to .978 .978 and .896 .896 , respectively.

For the mens world record, 97.8% of the | variance | variance is explained by the linear model of year, while for the female world record, 89.6% of the | variance | variance in performance can be explained by the linear model of year.

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