一張含有 文字, 螢幕擷取畫面, 字型, 文件 的圖片

AI 產生的內容可能不正確。

### (a) Sketch the fitted values from Model 1 for EXPER = 0 to 30 years

- Model 1: RATING = 64.289 + 0.990 × EXPER

- If EXPER goes from 0 to 30:

- At EXPER = 0, RATING = 64.289

- At EXPER = 30, RATING = 64.289 + 0.990 × 30 = 93.989

- The line starts at (0, 64.289) and goes up to (30, 93.989).

### (b) Sketch the fitted values from Model 2 for EXPER = 0 to 30 years, and explain why the four artists with no experience are not used in Model 2

- Model 2: RATING = 39.464 + 1.321 × EXPER

- If EXPER goes from 0 to 30:

- At EXPER = 0, RATING = 39.464

- At EXPER = 30, RATING = 39.464 + 1.321 × 30 = 79.094

- The line starts at (0, 39.464) and goes up to (30, 79.094).

Those four had EXPER = 0 and were likely omitted because the model focuses on how additional experience affects RATING for artists who already have some experience. Including zero-experience individuals might alter the slope or intercept in ways not relevant to experienced artists.

### (c) Using Model 1, compute the marginal effect on RATING of another year of experience for:

1. An artist with 10 years of experience

2. An artist with 20 years of experience

- Model 1: RATING = 64.289 + 0.990 × EXPER

- The marginal effect of one more year of experience is the slope, 0.990, regardless of current EXPER:

- Going from 10 to 11 years increases RATING by 0.990 points.

- Going from 20 to 21 years increases RATING by 0.990 points.

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### (d) Which of the two models fits the data better?

- Model 2 has R² = 0.6414 for the 46 artists with some experience.

- If we re-estimate Model 1 on just those 46 artists, the R² is 0.4858.

- Since 0.6414 > 0.4858, Model 2 provides a better fit for that subset of experienced artists.

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### (e) Which model is more reasonable or plausible?

- \*\*Model 1\*\* includes all 50 artists, capturing zero-experience cases. It might be more representative of the full group, but mixing zero-experience individuals with those who have many years could distort the slope.

- \*\*Model 2\*\* excludes zero-experience artists, focusing on those with at least one year of experience. This yields a higher R² among experienced artists, suggesting a stronger linear relationship in that subgroup.

- In practice, the choice depends on whether zero-experience artists should be analyzed separately or if the main interest is in how additional experience affects RATING among those already employed. If the focus is on the latter, Model 2 is likely more relevant.