

Algebra 1

Residual Plots

Residual Plots | A1-U10-P14

96 problems · Four activity formats

01	Answer Bank Challenge	24 tasks
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Topic focus

Across 96 tasks this topic asks for global residual-plot diagnostic with exact evidence.

8 PDFs and a README; 199 buyer pages.

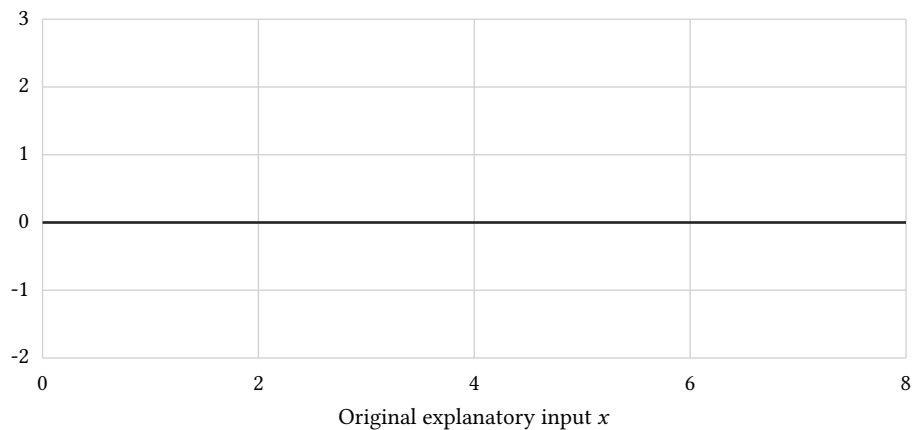
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Residual Plots

Name: _____ Date: _____ Class: _____

Answer each question and record the matching bank letter. Give exact values. Give the whole requested response, including any reasoning the question asks for.

Computing the table reveals positive ends and negative middle residuals. Plot the exact residual points $(0, 3)$; $(2, 0)$; $(4, -2)$; $(6, 0)$; $(8, 3)$ against the original x -values, include a horizontal $e = 0$ reference, and state the residual-axis units are response-error units.



Residual points	$(0, 3)$, $(2, 0)$, $(4, -2)$, $(6, 0)$, $(8, 3)$	
Zero reference	Yes	
Axis roles	Horizontal	original explanatory input
	Vertical	observed minus predicted response

Bank label: _____

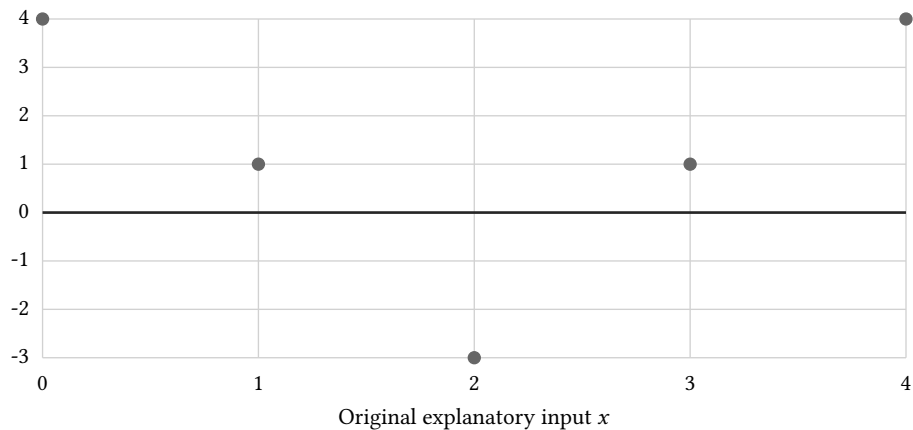
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Residual Plots

Name: _____ Date: _____ Class: _____

Answer each question and show your reasoning in the workspace. Give exact values rather than decimals unless the question supplies a decimal. Give the whole requested response, including any reasoning the question asks for.

Exact residual coordinates are $(0, 4)$; $(1, 1)$; $(2, -3)$; $(3, 1)$; $(4, 4)$ with zero reference $e = 0$. Decide whether there is *U*-shaped, inverted-*U*, other systematic structure, or no clear curvature; use sign runs rather than only the largest point.



Residual points	$(0, 4)$, $(1, 1)$, $(2, -3)$, $(3, 1)$, $(4, 4)$
Zero reference	Yes
Model provenance	Residual coordinates supplied for analysis.

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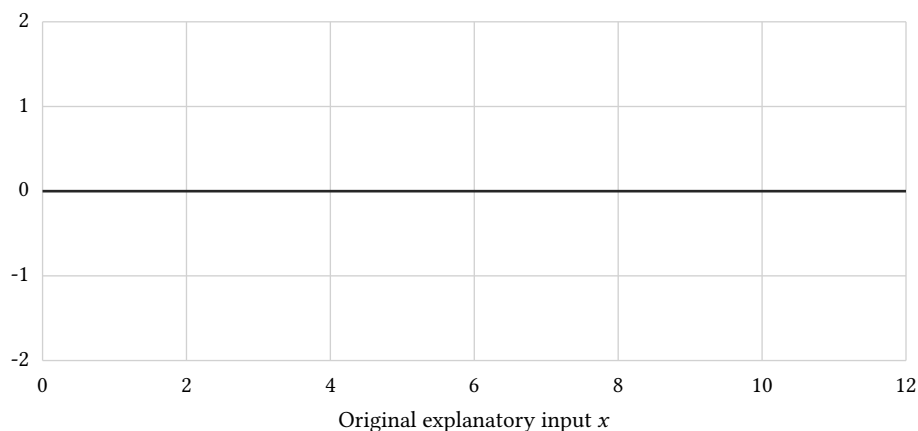
Residual Plots

Name: _____ Date: _____ Class: _____

Begin at START. Answer the card, then find the matching final answer at the top of another card. Use the recording sheet for your reasoning. Visit each card once and continue to FINISH.

Incoming: points: (1, 1), (3, 2), (3, -2), (6, -1); zero reference: $e = 0$

Input spacing is strongly uneven. Plot the exact residual points (0, 1); (1, -2); (5, 2); (12, -1) against the original x -values, include a horizontal $e = 0$ reference, and state the residual-axis units are response-error units.



Residual points	(0, 1), (1, -2), (5, 2), (12, -1)	
Zero reference	Yes	
Axis roles	Horizontal	original explanatory input
	Vertical	observed minus predicted response

Your response: _____

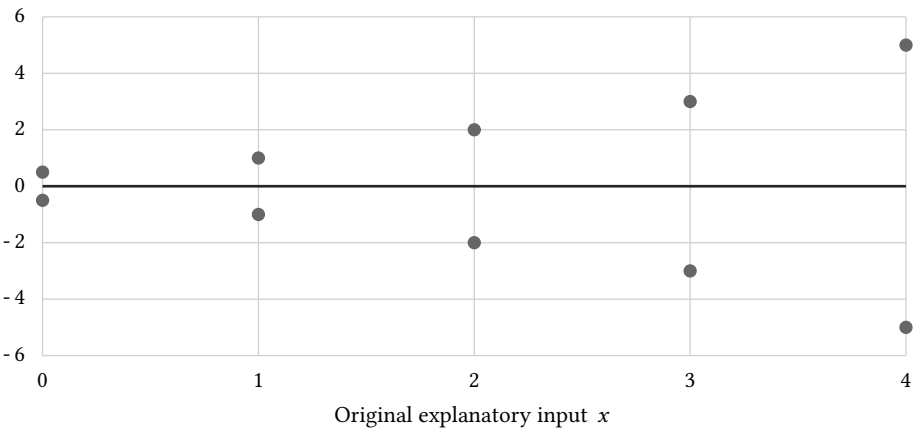
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Name: _____ Date: _____ Class: _____

Evaluate the supplied statement or method. Say whether it is correct, repair it if it is not, and verify the result exactly. Not every prompt contains an error.

Residuals begin near zero and widen toward high x . Exact residual points are $(0, -0.5)$; $(0, 0.5)$; $(1, -1)$; $(1, 1)$; $(2, -2)$; $(2, 2)$; $(3, -3)$; $(3, 3)$; $(4, -5)$; $(4, 5)$. Compare vertical spread across x -ranges, separate spread from center-pattern changes, and decide whether one error scale is adequate.



Residual points	$(0, -0.5)$, $(0, 0.5)$, $(1, -1)$, $(1, 1)$, $(2, -2)$, $(2, 2)$, $(3, -3)$, $(3, 3)$, $(4, -5)$, $(4, 5)$
Zero reference	Yes
Coverage note	Residuals begin near zero and widen toward high x .

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Full Worked Solutions - excerpt

Worked example

Problem. Audit this residual-plot conclusion: Residuals 8, -8 , 5, -5 sum to zero, and the fit is called perfect. Identify the evidence flaw involving scale, zero reference, omission, provenance, sign, units, pattern, or certainty, and rewrite the assessment.

Claim	Residuals 8, -8 , 5, -5 sum to zero, and the fit is called perfect.
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Answer. repair: The signed sum cancels while individual errors remain large; inspect magnitudes and patterns.

Explanation and check.

Correction: The signed sum cancels while individual errors remain large; inspect magnitudes and patterns.

Worked example

Problem. Audit this residual-plot conclusion: Six residuals look irregular, so the model is said to be proven true. Identify the evidence flaw involving scale, zero reference, omission, provenance, sign, units, pattern, or certainty, and rewrite the assessment.

Claim	Six residuals look irregular, so the model is said to be proven true.
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Answer. repair: Random-looking scatter is consistent with usefulness but cannot prove the model true.

Explanation and check.

Correction: Random-looking scatter is consistent with usefulness but cannot prove the model true.