MAFS.912.S-ID.2.6	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.
	a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear and exponential models.*
	b. Informally assess the fit of a function by plotting and analyzing residuals.
	c. Fit a linear function for a scatter plot that suggests a linear association.
Also assesses MAFS.912.S-ID.3.8	Compute (using technology) and interpret the correlation coefficient of a linear fit.
Also assesses MAFS.912.S-ID.3.9	Distinguish between correlation and causation.
Item Types	Editing Task Choice – May require choosing a correct interpretation.
	Equation Editor – May require creating an equation or providing a residual value.
	GRID – May require constructing a scatter plot, plotting residual values, or graphing a line of best fit.
	Hot Text – May require labeling parts of a graph.
	Matching Item – May require matching scatter plots with functions.
	Multiple Choice – May require selecting a linear equation or graph from a set, selecting a scatterplot graph that can or cannot fit a function, selecting a numeric value or a graph from a set, or selecting a statement describing the data given in reference to the correlation.
	Multiselect – May require selecting multiple scatterplot graphs that can or cannot fit a function or selecting statements describing the data given in reference to the correlation and/or causation.
	Open Response – May require explaining why certain data cannot fit into a best fit line or identifying flaws in a data display, summarizing an interpretation of a graph (i.e., correlation) or explaining why a relationship is not causal.
Clarifications	Students will represent data on a scatter plot.
	Students will identify a linear function, a quadratic function, or an exponential function that was found using regression.
	Students will use a regression equation to solve problems in the context of the data.

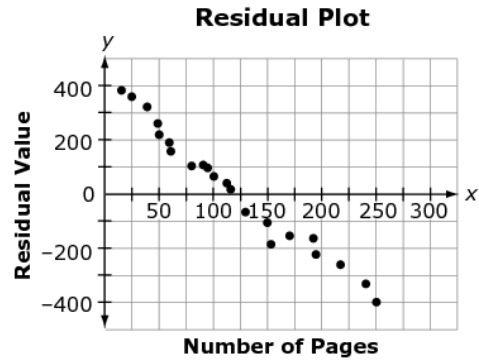|	Students will calculate residuals. Students will create a residual plot and determine whether a function is an appropriate fit for the data. Students will determine the fit of a function by analyzing the correlation coefficient. Students will distinguish between situations where correlation does not imply causation. Students will distinguish variables that are correlated because one is the cause of another.
Assessment Limit	In items that require the student to interpret or use the correlation coefficient, the value of the correlation coefficient must be given in the stem.
Stimulus Attribute	Items should use real-world data and be set in a real-world context.
Response Attributes	Items may require the student to apply the basic modeling cycle. Items may require the student to choose an appropriate level of accuracy. Items may require the student to choose and interpret the scale in a graph. Items may require the student to choose and interpret units.
Calculator	Neutral

Sample Item	Item Type
	Open Response
A company creates the equation $y = 11.26x - 76.1$ to model the relationship between the number of pages in its catalog and the number of orders, in thousands, that were received. To determine how well the equation models the relationship, the company plots the residuals as shown. **Residual Plot** Why is the equation not a good model for the relationship? Type your answer in the space provided. 	