Content Standard	**MAFS.8.F** *Functions*
	MAFS.8.F.1 *Define, evaluate, and compare functions.*
	MAFS.8.F.1.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points $(1, 1)$, $(2, 4)$ and $(3, 9)$, which are not on a straight line.*
Assessment Limit	Function notation may not be used.
Calculator	Yes
Item Types	Equation Editor GRID Matching Item Multiple Choice Multiselect Open Response Table Item
Context	Allowable

Sample Item	Item Type
Several functions represent different savings account plans. Which functions are nonlinear? ☐ $y = 5.50x + 7$ ☐ $y = 5.50(1.02)^x$ ☐ $y = 0.5(x)^2$ ☐ $y = 7.25x$ ☐ $y = 7.25 + x^2$	Multiselect
Jared puts 20 cents in a jar. The following week, he puts two times that original amount in the jar. For each of the following six weeks, Jared continues to double the amount of money he places in his savings jar each week. Determine if the relationship is linear or nonlinear. Explain your choice using examples with ordered pairs.	Open Response
The function $y = 3.50x + 2$ represents the total amount of money, y, saved over x weeks. What is true about the function? Ⓐ It is linear because it is always increasing. Ⓑ It is linear because it increases at a constant rate. Ⓒ It is nonlinear because it is always increasing. Ⓓ It is nonlinear because it increases at a constant rate.	Multiple Choice