Task Model 3

Response Type: Multiple Choice, single correct response

DOK Level 2

8.F.2
Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.*

Evidence Required:
3. The student recognizes the same function written in different functional forms (algebraic, graphic, tabular, or verbal).

Tools: Calculator

Prompt Features: The student identifies the same function represented in different ways.

Stimulus Guidelines:
- Context should be familiar for 13- to 15-year-olds.
- Tables and graphs must be labeled.
- Item difficulty can be adjusted via this example method:
  - Representations in the answer choice are all equations, all tabular, all graphs, or verbal statements or a combination.

TM3
Stimulus: The student is presented with a function represented in algebraic, graphic, or tabular form.

Example Stem 1: Which table of values can be represented by the function, $y = 3x + 2$?

A.

x	y
-4	-10
-3	-7
-2	-4
-1	-1
0	2

B.

x	y
-10	-4
-7	-3
-4	-2
-1	-1
2	0

C.

x	y
-4	36
-3	35
-2	34
-1	33
0	32

D.

x	y
32	0
33	-1
34	-2
35	-3
36	-4

Task Model 3 **Response Type: Multiple Choice, single correct response** **DOK Level 2** **8.F.2** Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.* **Evidence Required:** 3. The student recognizes the same function written in different functional forms (algebraic, graphic, tabular, or verbal). **Tools:** Calculator	**Answer Choices**: Choices can be different representations of a function such as an equation, table, or graph. Distractors should include errors such as an equation where the slope and *y*-intercept are switched or input and output values are switched. Errors in tables include *x* and *y* values switched, or where some, but not all, ordered pairs satisfy the equation in a table. **Rubric:** (1 point) The student selects the correct answer choice (e.g., A). **Response Type:** Multiple Choice, single correct response **Example Stem 2:** A swimming pool has 30 gallons of water in it. Water is added to the pool at a rate of 5 gallons per second. Select the equation that models the relationship between the amount of water (*W*), in gallons, in the swimming pool after *t* seconds. A. $W = 30t + 5$ B. $W = 5t + 30$ C. $W = 6t + 30$ D. $W = 30t + 6$ **Rubric:** (1 point) The student selects the correct answer (e.g., B). **Answer Choices:** Each answer choice will be a function represented in a different form than the one given in the stem (i.e., algebraic, graphic, tabular, or verbal). Incorrect answer choices will show error in misinterpreting the verbal statement by switching the slope and *y*-intercept and inappropriately calculating the rate and gallons. **Response Type:** Multiple Choice, single correct response