

Task Model 1

Response Type:
Multiple Choice,
multiple correct
response

DOK Level 1

8.F.1

Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

Evidence Required:

1. The student recognizes that a function is a rule that assigns to each input exactly one output.

Tools: Calculator

Prompt Features: The student identifies a function as a rule that assigns each input value to exactly one output value.

Stimulus Guidelines:

- Linear equations should be in either $y = mx + b$ where $b \neq 0$, or standard form.
- Equations may include exponents or absolute value.
- Tables and graphs must be labeled.
- Sets of ordered pairs should include three to five ordered pairs.
- Item difficulty can be adjusted via these example methods:
 - Answer choices given as tables and sets of ordered pairs are more difficult to identify as functions.

TM1

Stimulus: The student is presented with relations that may be functions and are represented as tables, graphs, and equations.

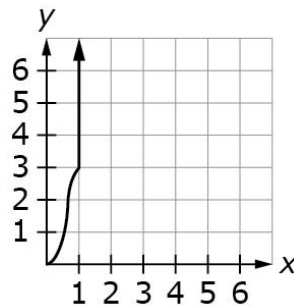
Example Stem: Select **all** relations that are functions.

A. $y = \frac{1}{2}x + \frac{1}{3}$

B.

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

C.



D. $\{(-2, 2), (-1, 1), (0, 0), (1, 1)\}$

Answer Choices: Each answer choice is a different representation of a relation such as an equation, table, graph, or set of ordered pairs.

Rubric: (1 point) The student selects the correct representations of a function (e.g., A and D).

Response Type: Multiple Choice, multiple correct response

<p>Task Model 2</p> <p>Response Type: Multiple Choice, multiple correct response</p> <p>DOK Level 1</p> <p>8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.</p> <p>Evidence Required: 2. The student identifies or produces input and output pairs for given functions.</p> <p>Tools: Calculator</p>	<p>Prompt Features: The student identifies or produces input and output pairs for given functions.</p> <p>Stimulus Guidelines:</p> <ul style="list-style-type: none"> • Tables and graphs must be labeled. • Linear equations should be in either $y = mx + b$ where $b \neq 0$, or standard form. • Sets of ordered pairs should include three to five ordered pairs. • Context should be familiar to 13- to 15-year-olds. • Item difficulty can be adjusted via these example methods: <ul style="list-style-type: none"> ○ Elements in the ordered pair include integers or fractions. ○ Equations may include exponents or absolute value. <p>TM2</p> <p>Stimulus: The student is presented with an equation or table that represents a function.</p> <p>Example Stem 1: Select all ordered pairs that satisfy the function, $y = -6x + 7$.</p> <p>A. (1, 1) B. (-1, 1) C. (-6, 7) D. (3, -11)</p> <p>Example Stem 2: The volume of water, in gallons, in a swimming pool depends on the time (t), in seconds, and can be modeled by the function, $y = 5t + 30$.</p> <p>Select all of the ordered pairs that satisfy the function.</p> <p>A. (45, 3) B. (3, 45) C. (0, 30) D. (30, 0)</p> <p>Answer Choices: The answer choices will include at least two correct ordered pairs. Incorrect options will include ordered pairs resulting from switching the variables and integer signs, and using the slope and y-intercept to form an ordered pair.</p> <p>Rubric: (1 point) The student selects all correct ordered pairs (e.g., A and D; B and C).</p> <p>Response Type: Multiple Choice, multiple correct response</p>
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