Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Introduction to Functions

Input and Output Values

Independent Practice

1. A giraffe’s hunger level depends on the size of its last meal.

*Part A:* What is the independent variable?

*Part B:* What is the dependent variable?

1. You earn $\$20$ per hour doing landscaping work. Your total earnings depend on the amount of hours you spend landscaping.

*Part A:* What is the independent variable?

*Part B:* What is the dependent variable?

*Part C:* Write a function to represent the situation.

1. Mr. Khans is buying staplers for his office. Each stapler costs $\$16.99$.

*Part A:* What does his final total cost depend upon?

*Part B:*In this scenario, what is the input? What is the output?

*Part C:* Write a function to represent the situation.

*Part D:* If Mr. Khans buys $15$ staplers, it would cost him $\$254.85$. How would you write this using function notation?

1. Cristiano Ronaldo has a messy house. The function that represents the total cost Cristiano spends having his house cleaned is$C\left(v\right)=125v$*,* where $v$ represents the number of visits.

*Part A:* How much does Cristiano spend per visit?

*Part B:* Define the input and output in the given scenario.

1. Consider the following incomplete mapping diagrams.



*Part A:* Complete Diagram A so that it is a function.

*Part B:* Is it possible to complete Diagram B so that it is NOT a function. If so, complete the diagram to show a relation, but not a function. If not, justify your reasoning.

*Part C:* Is it possible to complete the mapping diagram for Diagram C so it represents a function? If so, complete the diagram to show a function. If not, justify your reasoning.

1. The cost to manufacture $x$ chairs can be represented by the function $C\left(x\right)=36x$. Circle the pair of numbers (one in each box) that correctly completes the statement about the function.

6.

189.

378.

2,268.

0

6

63

378

If $C(63)=2268$, then chairs cost $

1. Which of the following relations are not functions? Select all that apply.
* $\left\{\left(1, 3\right), \left(3, 7\right), \left(5, 11\right), \left(7, 15\right), (9, 19)\right\}$
* $\left\{\left(1, 3\right), \left(1, 7\right), \left(5, 11\right), \left(5, 15\right), (9, 19)\right\}$
* $\left\{\left(-2, 4\right), \left(-1, 1\right), \left(0, 0\right), \left(1, 1\right), (2, 4)\right\}$
* $\left\{\left(2, 4\right), \left(1, 1\right), \left(0, 0\right), \left(1, -1\right), \left(2, -4\right)\right\}$
* $\left\{\left(6, 3\right), \left(4, 1\right), \left(2, 1\right), \left(0, -1\right), (-2, -3)\right\}$
* $\left\{\left(1, 3\right), \left(3, 7\right), \left(3, 11\right), \left(7, 15\right), (9, 19)\right\}$
* $\left\{\left(1, 3\right), \left(3, 7\right), \left(5, 11\right), \left(9, 15\right), (9, 19)\right\}$