

Additive Relationship

When a number is placed into the machine, the machine will use a rule to decide what the output should be. Watch as values are placed into the input-output machine. The results are recorded in the table. Four is the value of the input, and nine is the value of the output. Continue to observe values being placed into the input-output machine, and note any patterns you observe.

This time, seven is the value of the input, and 12 is the value of the output.

This time, three is the value of the input, and eight is the value of the output. What relationship do you notice between the input and the output?

Did this input-output pairing match your observation about the relationship between the input and output?

If the value of the input is a star, what do you think the value of the output will be? You are correct! The value of the output is one star with five units when the input is one star.

What mathematical rule describes the relationship between the input and output values for this machine? Every input value is increased additively by five to produce the output value. The output value, y , is equal to the input value, x increased by 5. The rule “ y is equal to the value of x plus five” describes an additive relationship.