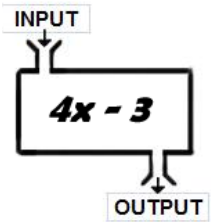


Quick Concept: A function is defined by for each x value there is one y value or in simpler terms for each input there is an output. In geometry we have something similar to a function -- the coordinate rule.

1) Use the function machine to determine the missing INPUT or OUTPUT values.



a) INPUT = -6

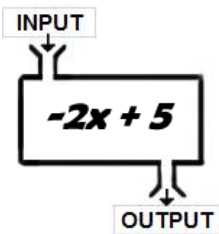
INPUT = 3

INPUT = _____

OUTPUT = _____

OUTPUT = _____

OUTPUT = 10



b) INPUT = _____

INPUT = -7

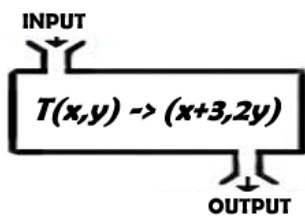
INPUT = _____

OUTPUT = 10

OUTPUT = _____

OUTPUT = -10

2) Use the coordinate machine to determine the missing INPUT or OUTPUT values.



a) INPUT = (-2, 5)

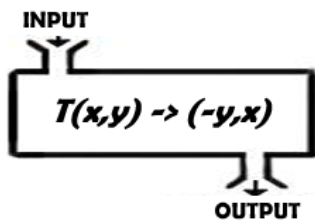
INPUT = (5, -8)

INPUT = (____, ____)

OUTPUT = (____, ____)

OUTPUT = (____, ____)

OUTPUT = (-7, 8)



b) INPUT = (-2, 5)

INPUT = (5, -8)

INPUT = (____, ____)

OUTPUT = (____, ____)

OUTPUT = (____, ____)

OUTPUT = (-7, 8)

3) Determine the rule of the function machine.

First Input	Second Input	Third Input	Fourth Input	What is the rule for this function machine?





4) Determine three different function machine rules for the given input/output.

	a) Possible Rule #1	b) Possible Rule #2	c) Possible Rule #3
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5) Determine three different coordinate machine rules for the given input/output.

	a) Possible Rule #1	b) Possible Rule #2	c) Possible Rule #3
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6) Use the given coordinate rules to solve for the missing image values.

- a) $T(x, y) \rightarrow (x, y + 7)$ $A(-4, 9)$ $A'(\underline{\quad}, \underline{\quad})$
- b) $S(x, y) \rightarrow (-y, x)$ $A(3, 1)$ $A'(\underline{\quad}, \underline{\quad})$
- c) $F(x, y) \rightarrow (5x, 3y)$ $A(2, -5)$ $A'(\underline{\quad}, \underline{\quad})$
- d) $G(x, y) \rightarrow (-x, y + 3)$ $A(-3, 3)$ $A'(\underline{\quad}, \underline{\quad})$
- e) $H(x, y) \rightarrow (2x - 1, y - 3)$ $A(3, 10)$ $A'(\underline{\quad}, \underline{\quad})$
- f) $P(x, y) \rightarrow (x + 3, 2y)$ $A(-3, -6)$ $A'(\underline{\quad}, \underline{\quad})$

7. Use the given coordinate rules to solve for the missing pre-image values.

- a) $T(x, y) \rightarrow (x - 2, y + 5)$ $A(\underline{\quad}, \underline{\quad})$ $A'(-4, 9)$
- b) $S(x, y) \rightarrow (y, x)$ $A(\underline{\quad}, \underline{\quad})$ $A'(3, 1)$
- c) $F(x, y) \rightarrow (3x, 5y)$ $A(\underline{\quad}, \underline{\quad})$ $A'(6, -5)$
- d) $G(x, y) \rightarrow (-x, y + 3)$ $A(\underline{\quad}, \underline{\quad})$ $A'(-3, 3)$
- e) $H(x, y) \rightarrow (-x, -y)$ $A(\underline{\quad}, \underline{\quad})$ $A'(3, 10)$
- f) $P(x, y) \rightarrow (2x - 1, -2y)$ $A(\underline{\quad}, \underline{\quad})$ $A'(-3, -6)$