

함수의 $x = a$ 에 대칭이동

(Reflection about $x = a$ of a function)

Reflection about $x = a$ of a function

▶ Start

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▶ Start


$$x = a$$

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▶ Start

$$x = a \quad \mathbb{T} : (x, y) \rightarrow (2a - x, y)$$

Reflection about $x = a$ of a function

▶ Start

$$x = a$$

$$T : (x, y) \rightarrow (2a - x, y)$$

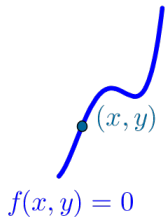


$$f(x, y) = 0$$

Reflection about $x = a$ of a function

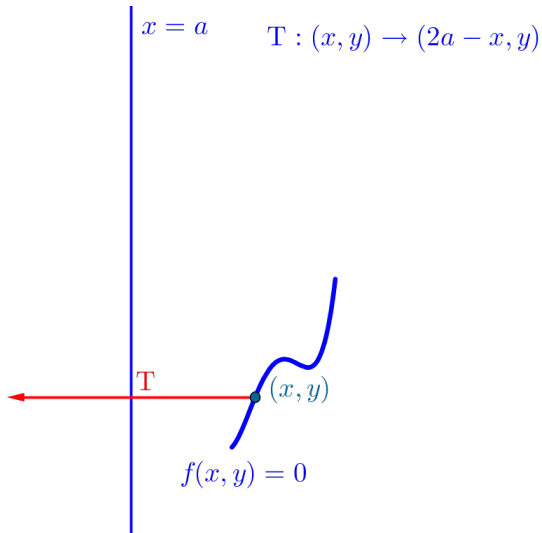
▶ Start

$$x = a \quad T : (x, y) \rightarrow (2a - x, y)$$



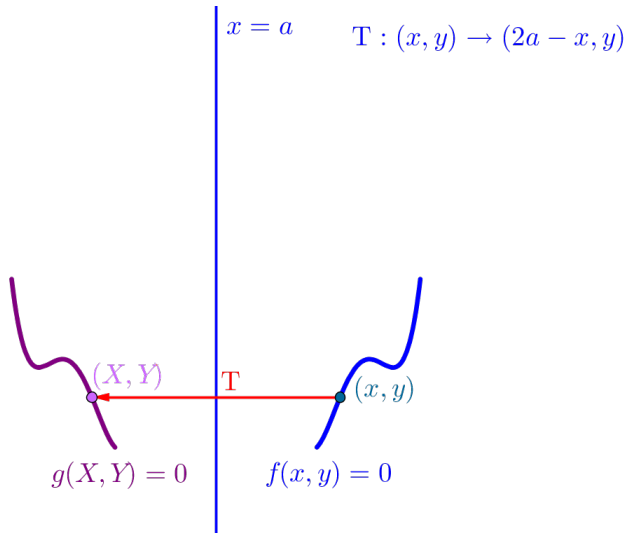
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▶ Start



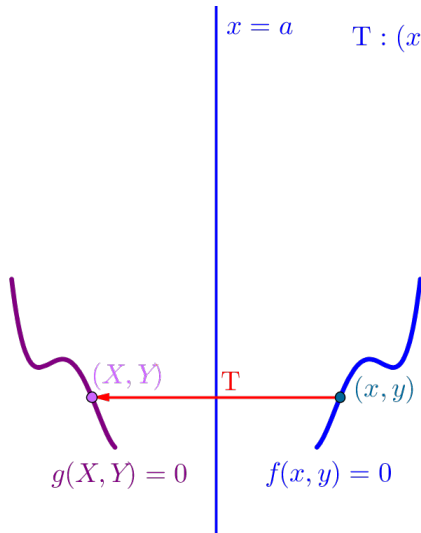
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▶ Start



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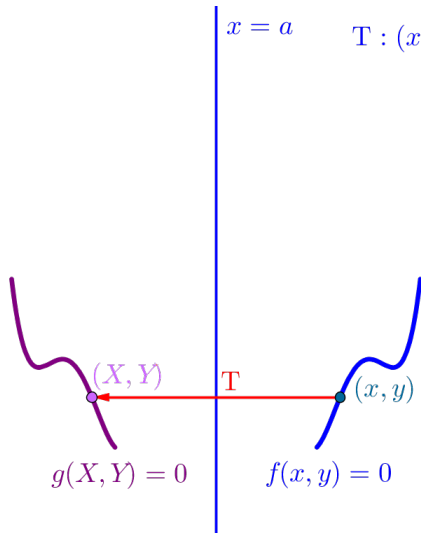
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$$\begin{aligned} X &= 2a - x, & Y &= y \\ x &= 2a - X, & y &= Y \\ f(x, y) &= f(2a - X, Y) \\ f(2a - X, Y) &= 0 \end{aligned}$$

Reflection about $x = a$ of a function

▶ Start



$$X = 2a - x, \quad Y = y$$

$$x = 2a - X, \quad y = Y$$

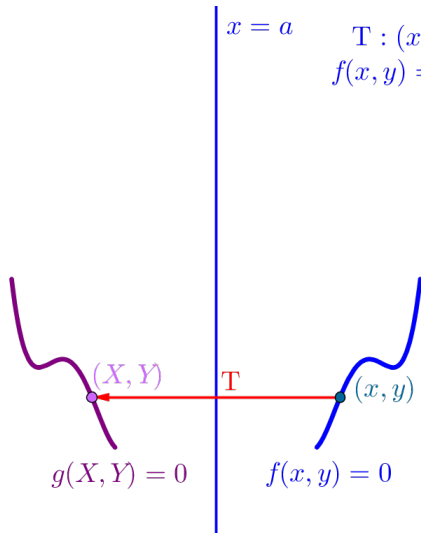
$$f(x, y) = f(2a - X, Y)$$

$$f(2a - X, Y) = 0$$

$$\therefore g(X, Y) = f(-X, Y)$$

Reflection about $x = a$ of a function

▶ Start



$$x = a$$

$$T : (x, y) \rightarrow (2a - x, y)$$

$$f(x, y) = 0 \rightarrow g(x, y) = 0$$

$$X = 2a - x, \quad Y = y$$

$$x = 2a - X, \quad y = Y$$

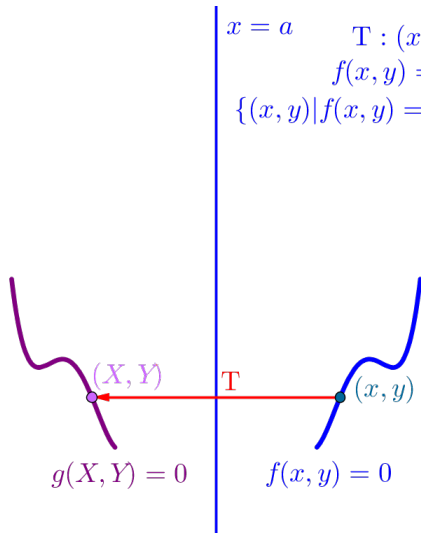
$$f(x, y) = f(2a - X, Y)$$

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Reflection about $x = a$ of a function

▶ Start

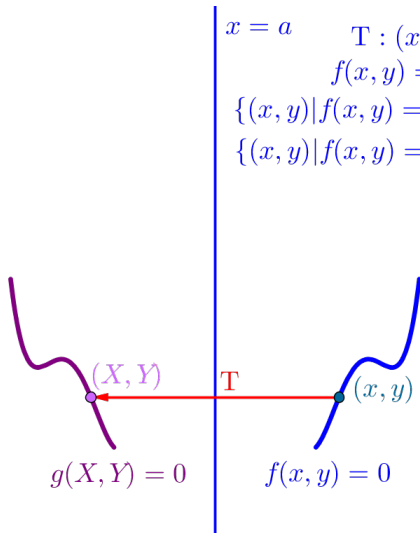


$$x = a \quad \mathbb{T} : (x, y) \rightarrow (2a - x, y)$$
$$f(x, y) = 0 \rightarrow g(x, y) = 0$$
$$\{(x, y) | f(x, y) = 0\} \rightarrow \{(x, y) | g(x, y) = 0\}$$

$$X = 2a - x, \quad Y = y$$
$$x = 2a - X, \quad y = Y$$
$$f(x, y) = f(2a - X, Y)$$
$$f(2a - X, Y) = 0$$
$$\therefore g(X, Y) = f(-X, Y)$$

Reflection about $x = a$ of a function

▶ Start



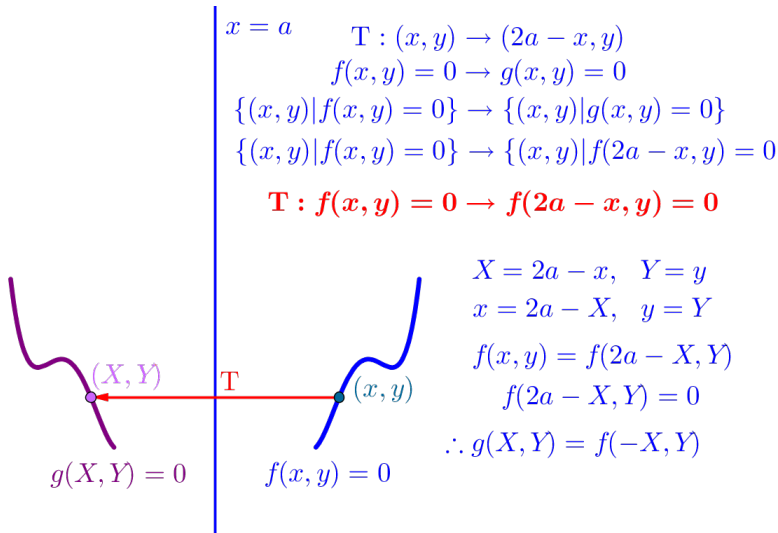
$$X = 2a - x, \quad Y = y$$
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$$f(x, y) = f(2a - X, Y)$$
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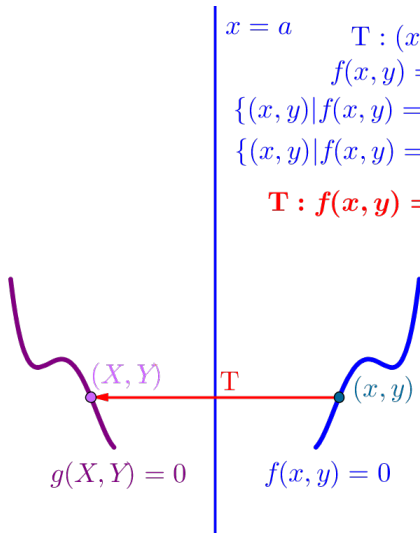
Reflection about $x = a$ of a function

▶ Start



Reflection about $x = a$ of a function

▶ Home



$$x = a \quad \mathbb{T} : (x, y) \rightarrow (2a - x, y)$$

$$f(x, y) = 0 \rightarrow g(x, y) = 0$$

$$\{(x, y) | f(x, y) = 0\} \rightarrow \{(x, y) | g(x, y) = 0\}$$

$$\{(x, y) | f(x, y) = 0\} \rightarrow \{(x, y) | f(2a - x, y) = 0\}$$

$$\mathbb{T} : f(x, y) = 0 \rightarrow f(2a - x, y) = 0$$

$$X = 2a - x, \quad Y = y$$

$$x = 2a - X, \quad y = Y$$

$$f(x, y) = f(2a - X, Y)$$

$$f(2a - X, Y) = 0$$

$$\therefore g(X, Y) = f(-X, Y)$$