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| | |
|---------------|------------------|
| $Y = 2X + 6$ | $f(x) = 2X + 6$ |
| $Y = 7X + 9$ | $g(x) = 7X + 9$ |
| $Y = 8X + 0$ | $h(x) = 8X + 0$ |
| $Y = 10X + 9$ | $j(x) = 10X + 9$ |
| $Y = X$ | $k(x) = X$ |
| $Y = 22X$ | $z(x) = 22X$ |
| $Y = 33X$ | $b(x) = 33X$ |

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output value

input value

$$f(x) = 5x + 3$$

"f of x equals 5 times x plus 3"

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$$f(1) = 5(1) + 3$$

"f of 1 equals 5 times 1 plus 3"

$$\begin{array}{l} \text{INPUT} = 1 \\ \text{OUTPUT} = 8 \\ (1, 8) \end{array}$$

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EXAMPLES

$f(x) = 6x - 1$

use $x = \{0, 2, 4\}$

| | | |
|-------------------------------------|-------------------------------------|---|
| $6(0) - 1$ $0 - 1$ -1 $f(0) = -1$ | $f(2) = 6(2) - 1$ $= 12 - 1$ $= 11$ | $f(4) = 6(4) - 1$ $= 24 - 1$ $= 23$ $f(4) = 23$ |
|-------------------------------------|-------------------------------------|---|

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EXAMPLES

$f(x) = |x| + 9$

use $x = \{-1, -2, -4\}$

| | | |
|---|-------------------------|-------------------------|
| $f(-1) = -1 + 9$ $= 1 + 9$ $f(-1) = 10$ | $ -2 + 9$ $2 + 9$ 11 | $ -4 + 9$ $4 + 9$ 13 |
|---|-------------------------|-------------------------|

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| | | | | | |
|---|--|--|--|--|--|
| <p>* Note *</p> <p>$2 \cdot 2 = 4$</p> <p>$-2 \cdot 2 = 4$</p> | | | <p>EXAMPLES</p> <p>$g(x) = x^2 - 1$</p> <p>use $g(x) = \{3, 8, 15\}$</p> | | |
| <p>$g(x) = 3$</p> <p>$3 = x^2 - 1$</p> <p>+1 +1</p> <p>$\sqrt{4} = \sqrt{x^2}$</p> <p>$\pm 2 = x$</p> | <p>$8 = x^2 - 1$</p> <p>+1 +1</p> <p>$\sqrt{9} = \sqrt{x^2}$</p> <p>$\pm 3 = x$</p> | <p>$15 = x^2 - 1$</p> <p>+1 +1</p> <p>$\sqrt{16} = \sqrt{x^2}$</p> <p>$\pm 4 = x$</p> | | | |

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