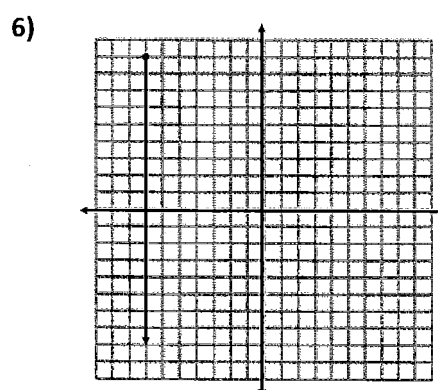
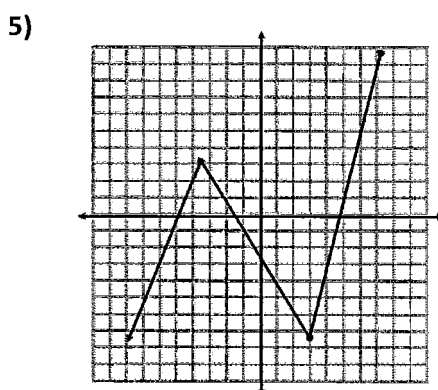
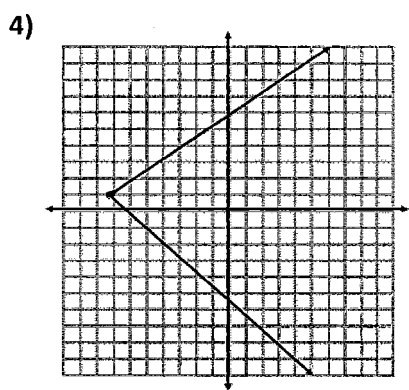


Worksheet 9.5: Inverses of Functions

For #1-3, state whether the relation is a function. Find the inverse, and state whether the inverse is a function. Then find the domain and range of the inverse.

- 1) $\{(0,1), (1,4), (2,9), (3,16)\}$ 2) $\left\{\left(\frac{1}{2}, \frac{1}{2}\right), (1,3), \left(\frac{3}{2}, 2\right), \left(2, \frac{1}{2}\right)\right\}$ 3) $\{(-1,6), (-2,5), (-3,4), (-4,3)\}$

For #4-6, determine if the given relation is a function. Then determine whether the inverse is a function.



Relation: _____ Inverse: _____ Relation: _____ Inverse: _____ Relation: _____ Inverse: _____

For #7-9, use your graphing calculator to graph each function, and use the horizontal-line test to determine whether the inverse is a function.

- 7) $f(x) = x^3 + 4$ 8) $h(x) = -x^3 + x$ 9) $g(x) = -x^2 - 5$

For #10-15, find the equation of the inverse of each given function.

- 10) $f(x) = \frac{x-5}{3}$ 11) $g(x) = \frac{-3}{2}x + 6$ 12) $y = 3\left(-x - \frac{1}{2}\right)$

- 13) $y = \sqrt{x}$ 14) $f(x) = -x$ 15) $f(x) = x^2$