Without using a calculator, graph f(x)=2/3x+1.

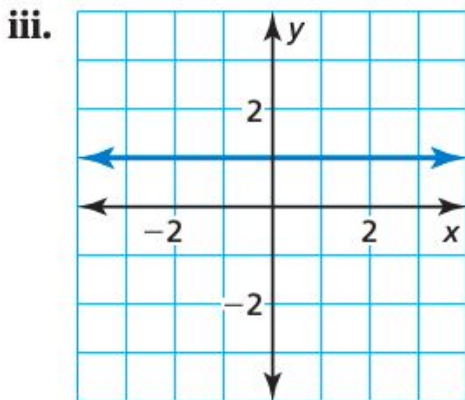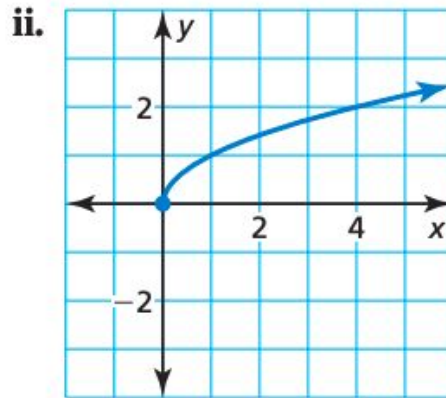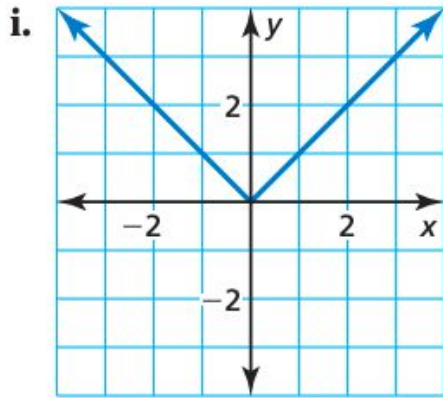Classify each function as constant, linear, absolute value, quadratic, square root, or exponential. Justify your reasoning.

i.

ii.

iii.

iv.

v.

vi.
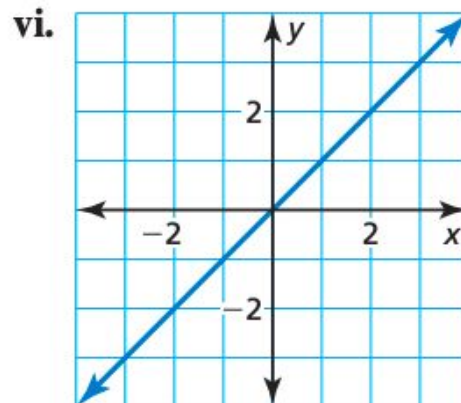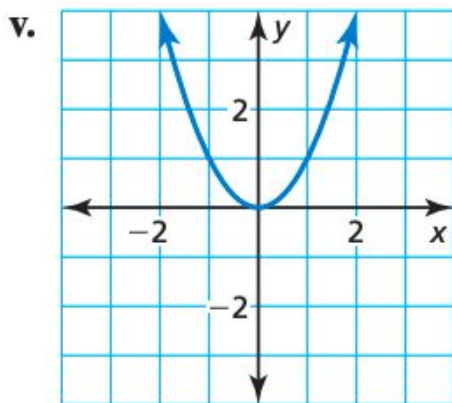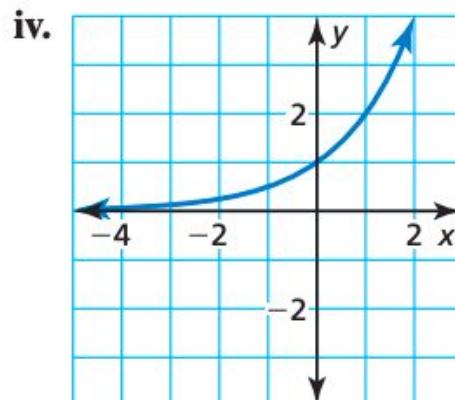
KEY IDEA

Parent Functions

| Family	Constant	Linear	Absolute Value	Quadratic
Rule	$f(x) = 1$	$f(x) = x$	$f(x) = |x|$	$f(x) = x^2$
Graph				
Domain	All real numbers	All real numbers	All real numbers	All real numbers
Range	$y = 1$	All real numbers	$y \geq 0$	$y \geq 0$
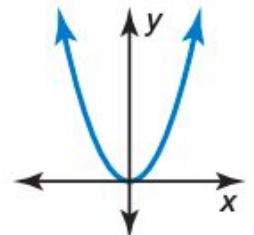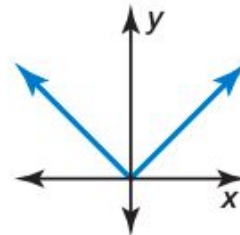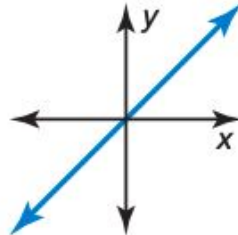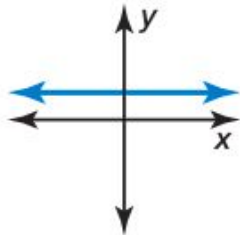
Identify the function family to which f belongs. Compare the graph of f to the graph of its parent function.

$f(x) = 2|x| + 1$

Identify the function family to which f belongs. Compare the graph of f to the graph of its parent function.

2.

$$g(x) = \tfrac{1}{4}(x - 3)^2$$
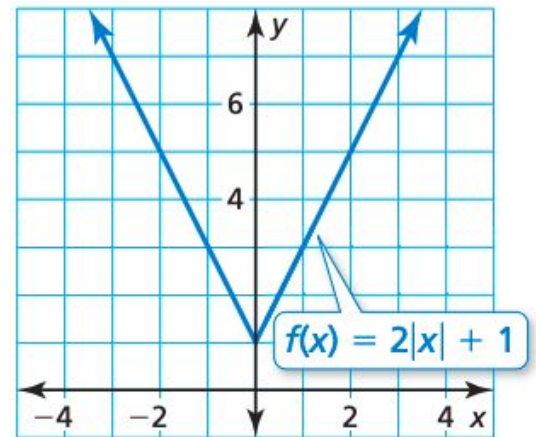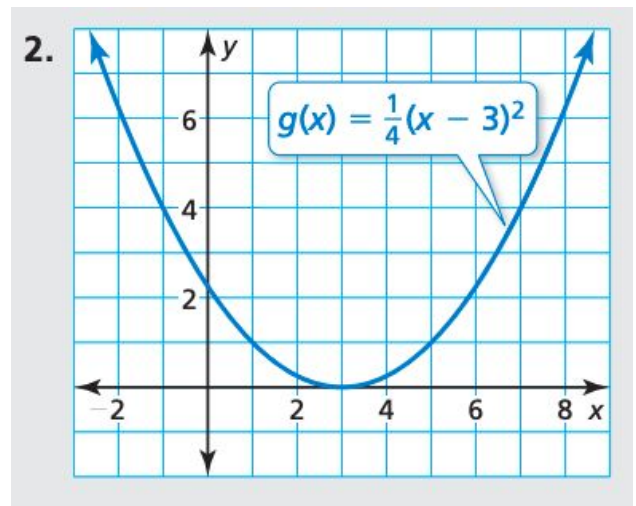
Graph g(x) = x − 4 and its parent function. Then describe the transformation.

Graph $p(x) = -x^2$ and its parent function. Then describe the transformation.

Graph and describe the transformation.

Combinations of Transformations