

Function Transformations

Apply transformations to parent key points in the correct inside/outside order. Preserve real-domain restrictions and classify parity only when requested.

1. Write an equation for the shown transformation of the linear parent. Also classify the transformed function g as even, odd, or neither.

Assumptions: The plotted curve samples the real parent function between its mapped key points.

Parent point	Mapped point
(-2, -2)	(-2, -4)
(-1, -1)	(-1, -5)
(0, 0)	(0, -6)

2. Complete the mapped-point table and graph $g(x) = -2 f((x-0)/0.5)$ from the cube-root parent. Also classify the transformed function g as even, odd, or neither.

Assumptions: The plotted curve samples the real parent function between its mapped key points.

Parent point	Mapped point
(-8, -2)	
(-1, -1)	
(0, 0)	

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3. Complete the mapped-point table and graph $g(x) = 1 f((x+3)/1) + 4$ from the square-root parent. Also classify the transformed function g as even, odd, or neither.

Assumptions: The transformed real domain begins at the mapped endpoint.

Parent point	Mapped point
(0, 0)	
(1, 1)	
(4, 2)	

4. Describe the transformations from the quadratic parent to $g(x) = -2 f((x+3)/-1) - 1$. Also classify the transformed function g as even, odd, or neither.

Assumptions: The plotted curve samples the real parent function between its mapped key points.

Parent point	Mapped point
(-2, 4)	(-1, -9)
(-1, 1)	(-2, -3)
(0, 0)	(-3, -1)

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5. Complete the mapped-point table and graph $g(x) = 1 f((x+4)/1) - 2$ from the cube-root parent. Also classify the transformed function g as even, odd, or neither.

Assumptions: The plotted curve samples the real parent function between its mapped key points.

Parent point	Mapped point
$(-8, -2)$	
$(-1, -1)$	
$(0, 0)$	

6. Describe the transformations from the square-root parent to $g(x) = 0.5 f((x-0)/2)$. Also classify the transformed function g as even, odd, or neither.

Assumptions: The transformed real domain begins at the mapped endpoint.

Parent point	Mapped point
$(0, 0)$	$(0, 0)$
$(1, 1)$	$(2, 0.5)$
$(4, 2)$	$(8, 1)$

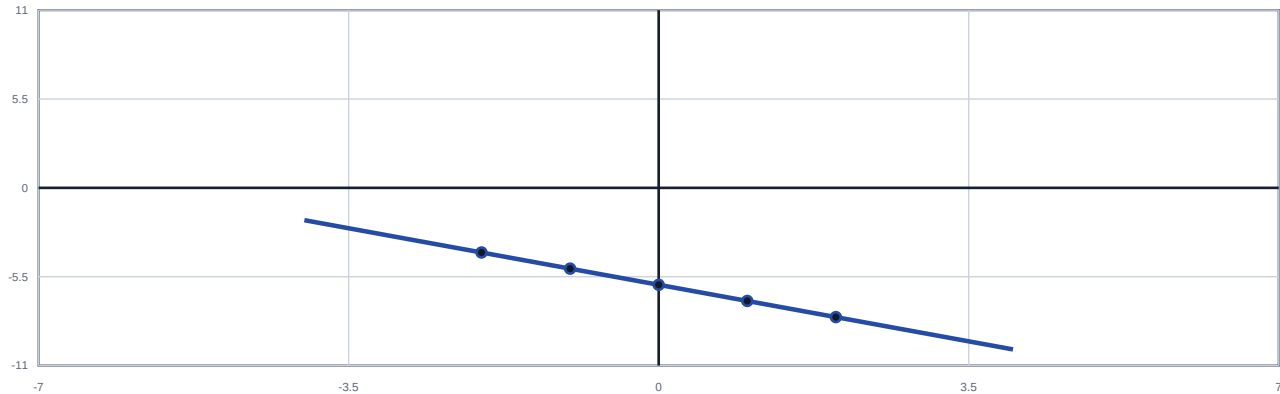
Function Transformations

Worked Answer Key

Apply transformations to parent key points in the correct inside/outside order. Preserve real-domain restrictions and classify parity only when requested.

1. Write an equation for the shown transformation of the linear parent. Also classify the transformed function g as even, odd, or neither.

Parent point	Mapped point
(-2, -2)	(-2, -4)
(-1, -1)	(-1, -5)
(0, 0)	(0, -6)



Answer: $g(x) = -1 f((x-0)/1) - 6$; transformed g is neither

1. Apply the inside horizontal change to x-coordinates first.
2. Apply the outside vertical change to y-coordinates and sample the parent between key points to draw the actual curve.
3. Mapped points: (-2,-4), (-1,-5), (0,-6).
4. Test $g(-x)$ against $g(x)$ and $-g(x)$: the transformed function is neither. The parent function alone being even or odd is insufficient after shifts.

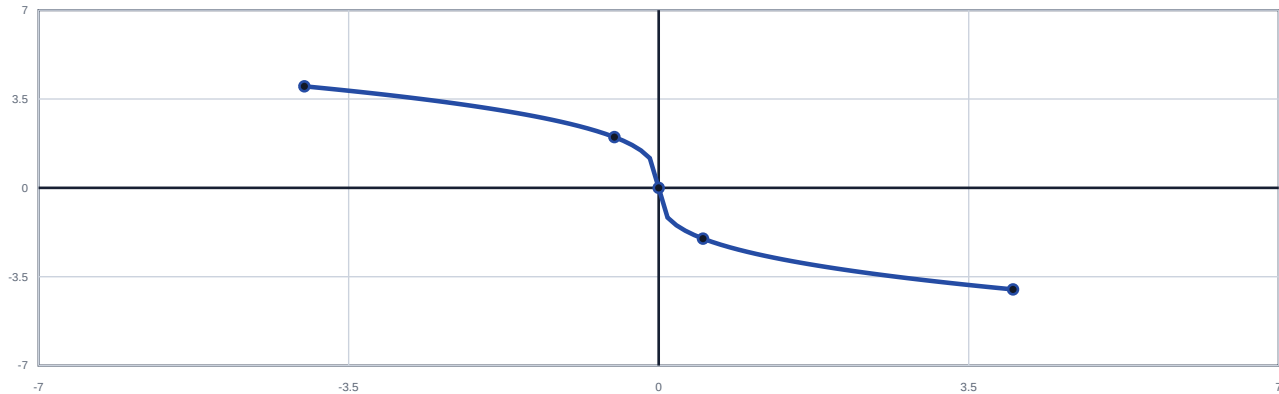
Function Transformations

Worked Answer Key

Apply transformations to parent key points in the correct inside/outside order. Preserve real-domain restrictions and classify parity only when requested.

2. Complete the mapped-point table and graph $g(x) = -2 f((x-0)/0.5)$ from the cube-root parent. Also classify the transformed function g as even, odd, or neither.

Parent point	Mapped point
$(-8, -2)$	$(-4, 4)$
$(-1, -1)$	$(-0.5, 2)$
$(0, 0)$	$(0, 0)$



Answer: $g(x) = -2 f((x-0)/0.5)$; transformed g is odd

1. Apply the inside horizontal change to x -coordinates first.
2. Apply the outside vertical change to y -coordinates and sample the parent between key points to draw the actual curve.
3. Mapped points: $(-4,4)$, $(-0.5,2)$, $(0,0)$.
4. Test $g(-x)$ against $g(x)$ and $-g(x)$: the transformed function is odd. The parent function alone being even or odd is insufficient after shifts.

Function Transformations

Worked Answer Key

Apply transformations to parent key points in the correct inside/outside order. Preserve real-domain restrictions and classify parity only when requested.

3. Complete the mapped-point table and graph $g(x) = 1 f((x+3)/1) + 4$ from the square-root parent. Also classify the transformed function g as even, odd, or neither.

Parent point	Mapped point
(0, 0)	(-3, 4)
(1, 1)	(-2, 5)
(4, 2)	(1, 6)

The graph shows a square root function shifted 3 units left and 4 units up. The curve starts at (-3, 4) and passes through (-2, 5) and (1, 6). The x-axis is labeled from -7 to 7, and the y-axis is labeled from -8 to 8.

Answer: $g(x) = 1 f((x+3)/1) + 4$; transformed g is neither

1. Apply the inside horizontal change to x-coordinates first.

2. Apply the outside vertical change to y-coordinates and sample the parent between key points to draw the actual curve.

3. Mapped points: (-3,4), (-2,5), (1,6).

4. Test $g(-x)$ against $g(x)$ and $-g(x)$: the transformed function is neither. The parent function alone being even or odd is insufficient after shifts.

Function Transformations

Worked Answer Key

Apply transformations to parent key points in the correct inside/outside order. Preserve real-domain restrictions and classify parity only when requested.

4. Describe the transformations from the quadratic parent to $g(x) = -2 f((x+3)/-1) - 1$. Also classify the transformed function g as even, odd, or neither.

Parent point	Mapped point
(-2, 4)	(-1, -9)
(-1, 1)	(-2, -3)
(0, 0)	(-3, -1)

Answer: horizontal scale -1, shift -3; vertical scale -2, shift -1; transformed g is neither

1. Apply the inside horizontal change to x-coordinates first.

2. Apply the outside vertical change to y-coordinates and sample the parent between key points to draw the actual curve.

3. Mapped points: (-1,-9), (-2,-3), (-3,-1).

4. Test $g(-x)$ against $g(x)$ and $-g(x)$: the transformed function is neither. The parent function alone being even or odd is insufficient after shifts.

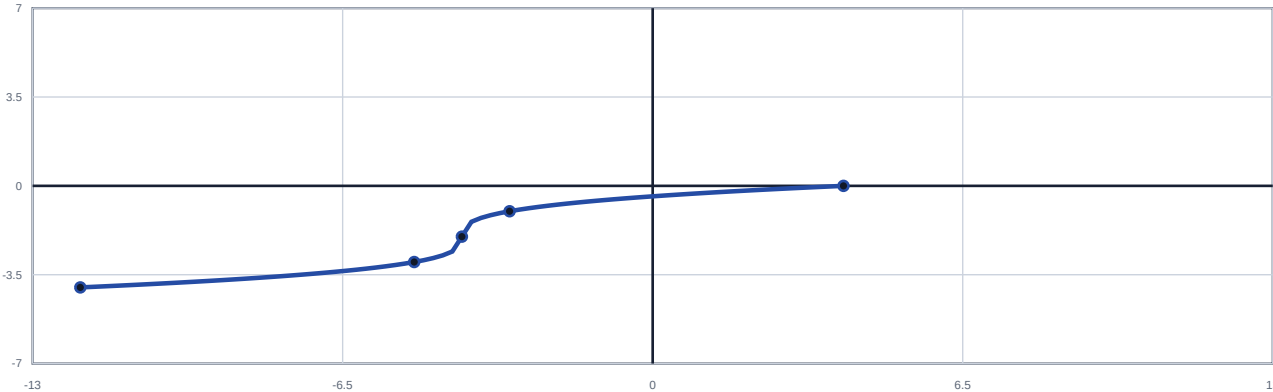
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Worked Answer Key

Apply transformations to parent key points in the correct inside/outside order. Preserve real-domain restrictions and classify parity only when requested.

5. Complete the mapped-point table and graph $g(x) = 1 f((x+4)/1) - 2$ from the cube-root parent. Also classify the transformed function g as even, odd, or neither.

Parent point	Mapped point
$(-8, -2)$	$(-12, -4)$
$(-1, -1)$	$(-5, -3)$
$(0, 0)$	$(-4, -2)$



Answer: $g(x) = 1 f((x+4)/1) - 2$; transformed g is neither

1. Apply the inside horizontal change to x-coordinates first.
2. Apply the outside vertical change to y-coordinates and sample the parent between key points to draw the actual curve.
3. Mapped points: $(-12, -4)$, $(-5, -3)$, $(-4, -2)$.
4. Test $g(-x)$ against $g(x)$ and $-g(x)$: the transformed function is neither. The parent function alone being even or odd is insufficient after shifts.

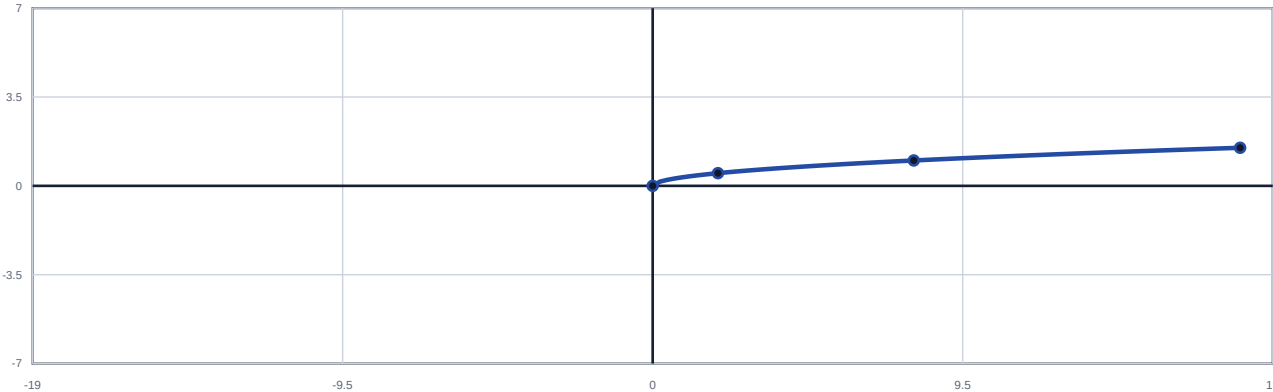
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Worked Answer Key

Apply transformations to parent key points in the correct inside/outside order. Preserve real-domain restrictions and classify parity only when requested.

6. Describe the transformations from the square-root parent to $g(x) = 0.5 f((x-0)/2)$. Also classify the transformed function g as even, odd, or neither.

Parent point	Mapped point
(0, 0)	(0, 0)
(1, 1)	(2, 0.5)
(4, 2)	(8, 1)



Answer: horizontal scale 2, shift 0; vertical scale 0.5, shift 0; transformed g is neither

1. Apply the inside horizontal change to x -coordinates first.
2. Apply the outside vertical change to y -coordinates and sample the parent between key points to draw the actual curve.
3. Mapped points: (0,0), (2,0.5), (8,1).
4. Test $g(-x)$ against $g(x)$ and $-g(x)$: the transformed function is neither. The parent function alone being even or odd is insufficient after shifts.