

Transformations Worksheet

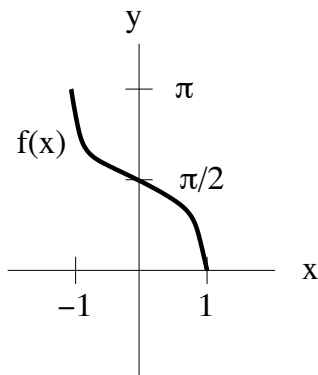
Name _____

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1. The graph of the function $y = f(x)$ is pictured with domain $-1 \leq x \leq 1$. Sketch the graph of the new function

$$y = g(x) = \frac{1}{\pi}f(x) - 0.5.$$

Find the largest possible domain of the function $y = \sqrt{g(x)}$.



2. Each of the six functions below can be written in the “standard” form

$$y = A|B(x - C)| + D,$$

for some constants A, B, C, D . Find these constants, describe the precise order of graphical operations involved in going from the graph of $y = |x|$ to the graph of $y = f(x)$ (paying close attention to the order), sketch the graph and calculate the coordinates of the “vertex” of the graph.

- (a) $f(x) = |x - 2|$
- (b) $f(x) = 2|x + 3|$
- (c) $f(x) = |-(x - 1)|$
- (d) $f(x) = |-x - 1|$
- (e) $f(x) = 3|-x - 1| + 5$
- (f) $f(x) = -2|x + 3| - 1$