Graphs of Functions and Transformations - Worksheet

NAME:
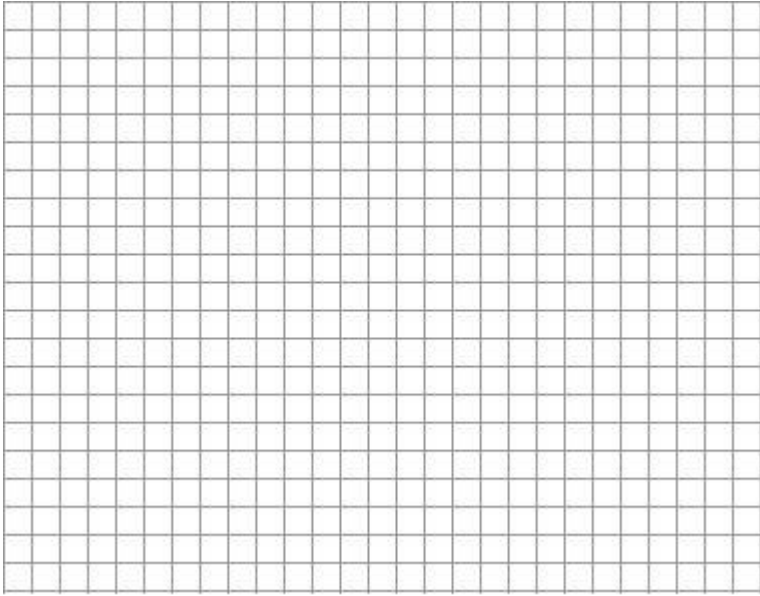DATE:

1. Draw the graph of a function f that satisfies the following four conditions:

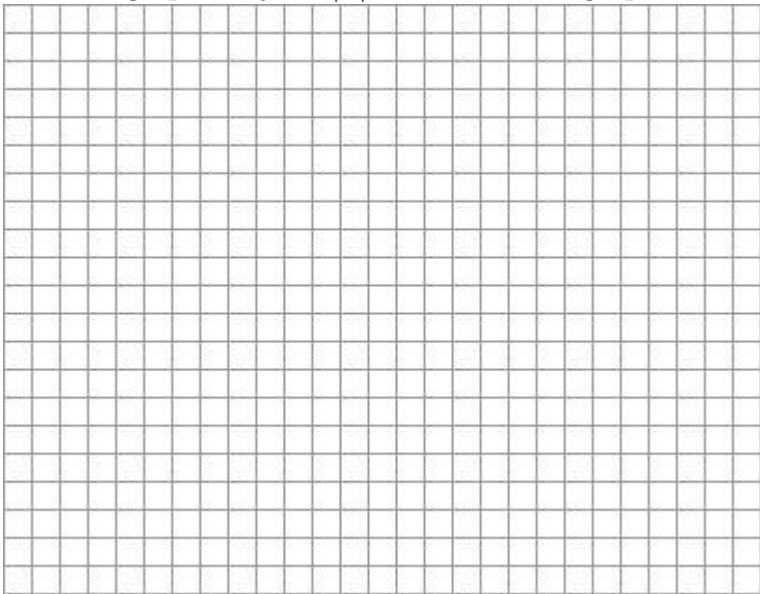   (1). domain $f = [-3, 3]$; (2). range $f = [-2, 6]$

   (3). f(-2)=5;

   (4). $f(x)$ starts decreasing when $x = 1$

2. Use the graph of $y = |x|$ to sketch the graph of the function $f(x) = |x + 2| + 3$

3. Describe a sequence of transformations that will transform the graph of the function $f(x) = x^3 - 6$ to $g(x) = (x+1)^3 - 2$

4. Write the rule of a function g whose graph can be obtained from the graph of the function $f(x) = \sqrt{x}$ by shifting the graph horizontally 3 units to the right and shrinking it toward the $x-$axis by a factor of $1/2$.