Name: _____ Date: _____

Test 1, Sections 1-1 to 1-3

Form A

Objective: Identify and transform functions and their graphs.

Part 1: No calculators allowed (1–8)

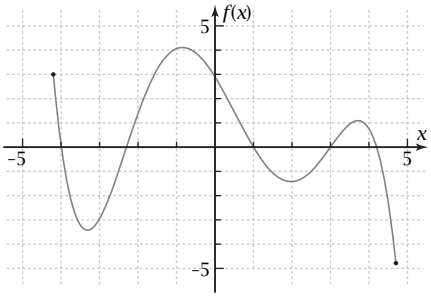
1. The grade you could get on a precalculus test depends on the number of hours you study the night before. If you study too long, however, you might score lower because you are too sleepy on the day of the test. Sketch a reasonable graph.

2. What type of function has a graph like the one you sketched in Problem 1?

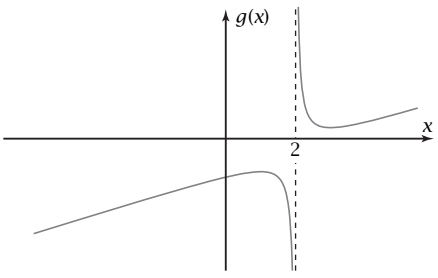
3. If $f(x) = 2 \times x^3$, what type of function is f?

4. If $f(x) = 5 \times 3^x$, what type of function is f?

5. The graph shows a polynomial function. The domain of the function is $-4.2 \le x \le 4.7$. What is the range of the function?

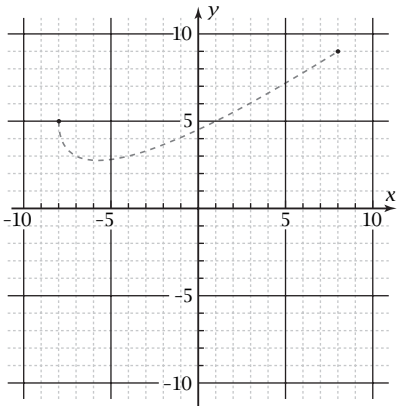


6. What type of function has a graph like this?



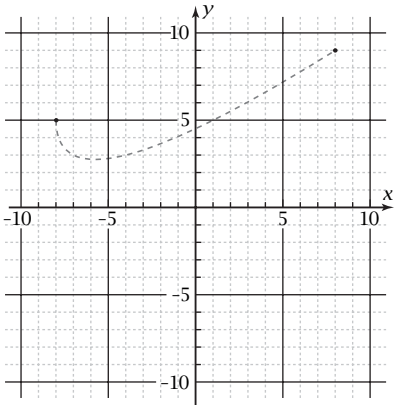
7. The graph of $f(x)$ is shown. Sketch the graph of function g, a horizontal dilation by a factor of $\frac{1}{4}$. Write $g(x)$ in terms of $f(x)$.

Equation: _____



8. If $g(x) = f(x) - 7$, describe the transformation, and sketch the graph of function g.

Verbally: _____



(Hand in this page to get the rest of the test.)