Name:_____ Date:_____

PC: Writing Equations for Transformed Graphs Ms. Loughran

For 1 – 10, a function f is given, and the indicated transformations are applied to its graph (in the given order). Write the equation for the final transformed graph.

1. $f(x) = x^2$; shift upward 3 units and shift 2 units to the right

2. $f(x) = x^3$; shift downward 1 unit and shift 4 units to the left

3. $f(x) = \sqrt{x}$; shift 3 units to the left, reflect over the x-axis, and shift upward 1 unit

4. $f(x) = |x|$; shift to the right $\frac{1}{2}$ and shift downward 2 units

5. $f(x) = x^4$; shift to the left 4 units, reflect over the x-axis and shift upward 10 units

6. $f(x) = \sqrt{x}$; reflected over the y-axis

7. $f(x) = x^3$; shift left 1 unit, reflected over the x-axis and shift upward 2 units

8. $f(x) = x^2$; shift left 3 units and shift upward 5 units

9. $f(x) = \sqrt{x}$; shift 4 units to the right and shift downward 3 units

10. $f(x) = |x|$; shift 1 unit to the left, reflected over the x-axis and shift upward 5 units