Name _____

Class _____

Problem 1 – *f*(*x*) → *f*(*x*) + *k*

How do the values in Column C compare to the values in Column B as you change the number in cell D3?

How do you think the graph will change for positive values of *k*? Negative values of *k*?

Problem 2 – *f*(*x*) → *f*(*x* – *h*)

How do the values in Column C compare to the values in Column B as you change the number in cell D3?

How do you think the graph will change for positive values of *h*? Negative values of *h*?

Problem 3 – *f*(*x*) → *a* · *f*(*x*)

How do the values in Column C compare to the values in Column B as you change the number in cell D3?

How do you think the graph will change for positive values of *a*? Negative values of *a*?

Problem 4 – f(x) → f(a · x)

How do the values in Column C compare to the values in Column B as you change the number in cell D3?

How do you think the graph will change for positive values of *a*? Negative values of *a*?

Problem 5

1. What kind of transformation is $f(x) = x^2 - 2$?

2. The function $f(x) = x^5$ will get closer to the *y*-axis under the transformation $p(x) \rightarrow a^*p(x)$?

    ☐ True   ☐ False

3. Describe the change in the graph from $f(x) = x^3$ for the function $f(x) = (x - 2)^3 + 3$?

4. Describe the transformation for $f(x) = x^4$ to $g(x) = 16x^4$.

5. Describe the transformation for $f(x) = x^3$ to $g(x) = x^3 + 3x^2 + 3x + 1$.

6. Write an equation for that transforms the graph of x^3 down 3 units and right 2 units.

7. Write an equation that reflects the graph of x^2 over the *x*-axis.