***Practice Problems***

**Name the parent function. Indicate the transformations in the graph compared to the parent.**

1) f(x) =

**Determine if the function is even, odd, or neither.**

2) f(x) = 2x5 + 2x3

**Decide whether the relation defines a function. Defend your answer**

3) {(-8, 2), (-8, 8), (-1, 8), (5, 6), (8, 7)}

4) y2 = 3x

**Compute and simplify the difference quotient**

5) f(x) = 7x - 9

**Consider the function h as defined. Find . State any restrictions inherited from h**

6) h(x) =

**Find f(-4), f(5) and f(12) for the given piece wise function**.

7)

 f(x)=

**Determine whether the function is symmetric with respect to the y-axis, symmetric with respect to the x-axis, symmetric with respect to the origin, or none of these.**

8) f(x) = -5x3 + 2x

**Perform the requested operation or operations.**

9) f(x) = , g(x) = 8x - 14

 *Find (f ∘ g)(x). State the domain of the composition.*

**Graph the function.**

10) 4x + 2

 F(x)= x

3x-1

**Find the indicated composite for the pair of functions.**

11) (g ∘ f)(x): f(x) = , g(x) = 6x + 3

**Give the domain and range of the relation. Provide a detailed graph (label all max, min, and intercept pts.)**

12) y = (x + 4)2 – 7

13)

**Write the equation of the function with the given transformations.**

14) Begin with . First, horizontally shrink this function by a half. Then move it down one.

 Finally, vertically stretch it by a factor of 5. Write the resulting equation. (ONLY ONE EQUATION)

**Analyze the function**

15)

16)

17)

18)

**Given the graph, perform the given transformations.**

19) f(x)+2

20) f(2x)

21) f(x+2)

22) 3f(2x-1)-3