Math 115E Activity 5

Chapter 3 Section 1
Introduction to function notation

Algebraic Rules		
$ax + bx = (a + b)x$	$a(bx) = abx$	$a(b + c) = ab + ac$
$b^x \cdot b^y = b^{x+y}$	$(b^x)^y = b^{xy}$	$(ab)^x = a^x b^x$
$b^{-x} = \frac{1}{b^x}$	$\frac{b^x}{b^y} = b^{x-y}$	$\left(\frac{a}{b}\right)^x = \frac{a^x}{b^x}$
$(t+1)^2 \longrightarrow (t+1)(t+1) \longrightarrow t(t+1) + 1(t+1) \longrightarrow t^2 + t + t + 1 \longrightarrow t^2 + 2t + 1$		

Difficulty 1:

1. $f(x) = 2x + 1, f(2) =?$
2. $f(x) = 4x - 3, f(a) =?$
3. $f(x) = x + 2, f(-1) =?$
5. $f(x) = 2x + 1, f(5) =?$
6. $f(x) = 4x - 3, f(7) =?$
7. $f(x) = x + 2, f(b) =?$

Difficulty 2:

8. $f(x) = 2x^2, f(2) =?$
9. $f(x) = -x^3 + x + 1, f(a) =?$
10. $f(x) = x^2 - 4x + 2, f(0) =?$
12. $f(x) = 2x^2, f(5) =?$
13. $f(x) = -x^3 + x + 1, f(4) =?$
14. $f(x) = x^2 - 4x + 2, f(10) =?$

Difficulty 3:

15. $f(x) = x + 1, f(a^2 + 1) =?$

16. $f(x) = 2x, f(x - 1) =?$

17. $f(x) = x^2, f(x + 1) =?$

19. $f(x) = x + 1, f(2a - 1) =?$

20. $f(x) = 2x, f(x^2) =?,$

21. $f(x) = x^2, f(-x + 3) =?$

Difficulty 4:

23. $f(x) = (x + 1)^2, f(x - 1) =?$

24. $f(x) = x(2x + 1)^2, f(4x) =?$

25. $f(x) = (2x + 4)(x - 1), f(4) =?$

26. $f(x) = (x + 1)^2, f(2 + x) =?$

27. $f(x) = x(2x + 1)^2, f(0) =?$

28. $f(x) = (2x + 4)^2, f(x + 1) =?$