A2.1a - Evaluating Functions

Name

1. Complete the table:

$f(x) = 2(x-1)^2$

x	f(x)
-1	
0	
1	
2	
3	

2. Evaluate the function for the indicated Values: make sure your answer is reduced.

$h(t) = t + \frac{1}{t}$

$h(-1) =$

$h(2) =$

$h(\frac{1}{2}) =$

$h(x-1) =$

$h(\frac{1}{x}) =$

3. Evaluate the piecewise function at the indicated values.

$$f(x) = \begin{cases} x^2 + 2x & \text{if } x \le -1 \\ x & \text{if } -1 < x \le 1 \\ -1 & \text{if } x > 1 \end{cases}$$

$f(-4), f(-\frac{3}{2}), f(-1), f(0), f(25)$

f(-4)= f(-3/2)=

f(-1)= f(0)=

f(25)=

4. Evaluate the piecewise function at the indicated values.

$$f(x) = \begin{cases} 3x & \text{if } x < 0 \\ x + 1 & \text{if } 0 \le x \le 2 \\ (x-2)^2 & \text{if } x > 2 \end{cases}$$

$f(-5), f(0), f(1), f(2), f(5)$

f(-5)= f(0)=

f(1)= f(2)=

f(5)=

5. Use the function to evaluate the indicated Expressions and simplify:

$f(x) = x^2 + 1$

$f(x+2) =$

$f(x) + f(2) =$

6. Use the function to evaluate the indicated Expressions and simplify:

$f(x) = x + 4$

$f(x^2) =$

$(f(x))^2 =$

7. Find $f(a)$, $f(a+h)$, *and the difference quotient* $\frac{f(a+h)-f(a)}{h}$, where $h \neq 0$. $f(x) = 3x + 2$	8. Find $f(a)$, $f(a+h)$, *and the difference quotient* $\frac{f(a+h)-f(a)}{h}$, where $h \neq 0$. $f(x) = x^2 + 1$
9. Find $f(a)$, $f(a+h)$, *and the difference quotient* $\frac{f(a+h)-f(a)}{h}$, where $h \neq 0$. $f(x) = \frac{1}{x+1}$	10. Find $f(a)$, $f(a+h)$, *and the difference quotient* $\frac{f(a+h)-f(a)}{h}$, where $h \neq 0$. $f(x) = \frac{x}{x+1}$