Algebraic Reasoning

Name:_____

Per:_____

POINTS:____

Classwork #28 Quiz

Be sure to include your work when appropriate.

1. **Use a table to write a function rule for h(x) if h(x) = f(x) + g(x).**

x	-1	0	1	2	3	4	5
$f(x)$	-2	-6	-2	10	30	58	94
$g(x)$	3	6	9	12	15	18	21
$h(x)$	1	0	7	22	45	76	115

2. **Write the simplified form of h(x) if h(x) = f(x) + g(x).**

$f(x) = x^3 + 5x^2 - 1$
$g(x) = x^2 + 2x + 7$

Discount City gives a 15% discount on all merchandise on Tuesdays. The sales tax rate is 5%.

3. Write a function, $f(x)$, to represent the discounted price of merchandise, x, on Tuesdays.

4. Write a function, $g(x)$, to represent the amount of sales tax on the discounted merchandise, x.

5. Write a function, $h(x)$, that can be used to calculate the total cost of discounted merchandise, including sales tax, by combining $f(x)$ and $g(x)$.