

**TEST VERSION Q=\_\_\_\_\_ Name:\_\_\_\_\_**

- (1) substitute the version number for the variable “Q” everywhere. Do not use Q in your answer.  
 (2) write all numbers as decimals with EIGHT SIGNIFICANT figures (no fractions or radicals)

1) Find the slope of the line that connects points ( -2, Q ) and ( 5, 4 )	1)
2) An urn has 15 red, 7 white and Q blue balls. What is the probability of picking a blue ball	2)
3) How far is ( -2, Q ) from ( 5, 4 )	3)
4) Add ( Q + 3i ) and ( 4 - 5i )	4)
5) Give the equations of any vertical asymptotes. $g(x) = (x - 5) \div ((x - Q)(x + 7))$	5)
6) Solve for x: (^ stands for exponentiation) <b>Q = (1.23 )^x</b>	6)
7) Find <b>SIN ( Q° )</b>	7)
8) Simplify: $(x + Q)(3x - 4) - (2x + 1)(x - 9)$	8)
9) Find $(f \circ g)( Q )$ for $f(x) = 8x - 5$ and $g(x) = 3x^2 - 5x + 9$	9)
10) Find $(f \circ g)(x)$ for $f(x) = 3x + Q$ , $g(x) = 4x - 1$	10)
11) Find $(f - g)(-3)$ for $f(x) = 3x^2 - Q$ and $g(x) = x + 3$	11)
12) Find $(f + g)(x)$ for $f(x) = Q - 7x$ and $g(x) = -4x + 7$	12)
13) Does the relation define a function: $\{(-2, 8), (2, -4), (4, 9), (9, -9), (Q, -6)\}$	13)
14) Find: $\frac{Q - 4}{2 + Q}$ ( don't forget you need eight place accuracy )	14)
15) Find $x = \text{LOG (base 7) of } Q$ [ usually written $\text{Log}_7 ( Q )$ ]	15)
16) The number of viruses on a large plate increases by Q percent every day. How long will it take to double the initial population.	16)
17) $f(Q)$ for $f(x) = 4x + 1$ , if $x < 7$ ; $7x$ , if $7 \leq x \leq 11$ ; $7 - 8x$ , if $x > 11$	17)
18) $f(k - 1)$ when $f(x) = 4x^2 - 2x - Q$	18)
19) What are the ALL of the intercepts of: $x^2 - (Q+7)x + 7Q$	19)
20) Express $f(x) = 2x^4 - x^3 - 15x^2 + 3x$ in the form $f(x) = (x - Q) g(x) + r$	20)