Algebra 2 Trig/IB

Term 2 Extra Practice

36 points total

This assignment must be completed on notebook paper, neat and in order. Please circle all answers. If there is no work shown, it will be marked wrong. Please graph #s 10 and 11 on graph paper. These are due NO LATER THAN the start of class this Friday, 2/22/19.

1.) Find the inverse of the function $f(x) = 2(x+3)^2 + 1$ 1 pt

2.) Given $h(x) = -x^2 + 3$, find $h(4)$. 1 pt

3.) Given $g(x) = 2x + 1 \quad and \quad k(x) = \frac{2}{x^2-16}$ find each. For a and b, also state the domain. 2 pts each

a.) $\frac{g(x)}{k(x)}$ b.) $(g \circ k)(x)$ c.) $(k \circ g)(-2)$ d.) $(k+g)(x)$

4.) In the expansion of $(3x - 7y)^6$, what 3 numbers do you multiply to find the coefficient of x^2y^4? 1 pt

5.) Simplify each. 1 pt each

a.) $\frac{3-i}{i-7}$ b.) $(2+5i)^2 - (3-6i)^2$

6.) Write a polynomial function that has the zeros: $-2, 4, -3i$ 3 pts

7.) Find all of the zeros of the given polynomials AND write the complete factorization of each. 3 pts each

a.) $j(x) = x^3 - 10x^2 + 34x - 40$ b.) $k(x) = 4x^4 + 21x^2 + 5$

8.) Solve each. Write your answer in interval notation. 3 pts each

a.) $2x^3 + 13x^2 - 8x - 46 < 6$ b.) $\frac{x^2-2x-8}{x+4} \geq 0$

10.) Graph the rational function on graph paper. Also, state any x and y intercepts and asymptotes. $s(x) = \frac{2x^2+1}{x^2+1}$

4 points PLEASE GRAPH ON GRAPH PAPER.

11.) Complete the square. Show all work. Then, state the vertex and axis of symmetry. Use these to graph each and plot at least 5 points each, including the vertex. $j(x) = 4x^2 - 8x - 32$

4 pts PLEASE GRAPH ON GRAPH PAPER.