

Assignment #3-2

Secondary 3 Honors

PreCalculus Book:

**Remember... when finding zeros, try to factor first. If it doesn't factor, use division.

Pg. 127 43, 46

Pg. 144 4, 5, 23, 28, 38, 51, 65, 66

Additional Problems: Complete these problems on a separate sheet of paper.

1. If $f(x) = 3x^2 + 1$ and $g(x) = \sqrt{x-3}$ find the following:

a. $f(-2)$

b. The Domain of $g(x)$

c. $f(g(x))$

d. $g^{-1}(x)$

e. $\frac{f(x+h) - f(x)}{h}$

2. Graph the function: $h(x) = \begin{cases} -x+3 & x \geq 1 \\ x^2-1 & x < 1 \end{cases}$ Is $h(x)$ a continuous function?

3. Find the roots of $f(x) = x^3 + 11x^2 + 39x + 29$

4. Find the factors of $g(x) = x^4 - 4x^3 + 8x^2 - 16x + 16$

5. Find a polynomial function with real coefficients given these zeros: $2, 2, 4-i$.

You may leave your answer in factored form.... You're welcome 😊