

3.4-3.6 Test Review

**SHOW ALL WORK TO RECEIVE ANY CREDIT (when you take the actual test)!!

(#1-5) Perform the operations and write your polynomial in standard form.

1) $(2a^4 - 4a + 2a^3 + 8) + (-5a^3 - 9a^4 + 11a)$

2) $(4n^5 - 3n^2 + 4) + (5n^5 - 2n^3 - 9) - (3n^2 - 4n^5 - 1 + 9n^3)$

3) $3x(x - 7)$

4) $(x^2 + 7x + 3)(2x - 8)$

5) $(x^2 - 4)(x + 3)(x - 2)$

6) a) Is $(x + 2)$ a factor of $(5x^3 - 2x^2 - 8x - 16)$? Explain your answer.

b) Divide the polynomials. Write your answer as a polynomial in standard form.

7) Give two other names for zeros.

(#8-9) Use division to solve. You may use [Desmos](#) to help you start. List the complete factorization and list ALL the zeros in one spot.

8) $f(x) = 16x^4 - 28x^3 + 6x^2$

9) $2x^3 + x^2 - x + 10 = 0$

10) List the transformations for the polynomial: $f(x) = -1/2(x - 3)^4 + 13$