

ALGEBRA II JOURNAL
Polynomials & Function Operations

1. (a) A polynomial with both ends going downward will have an _____ (even/odd) degree and _____ (+/-) leading coefficient.
(b) A polynomial with both ends going upward will have an _____ degree and _____ leading coefficient.
(c) A polynomial with its left end going upward and its right end going downward will have an _____ degree and _____ leading coefficient..
(d) A polynomial with its left end going downward and its right end going upward will have an _____ degree and _____ leading coefficient.
2. To find the real zeros of a polynomial with your calculator you should enter the function in $f_1(x)$ in your calculator and then use _____.
3. Relative maximums and minimums are _____ while absolute maximums and minimums are _____.
4. To multiply a binomial times a trinomial you should _____.
5. (a) The first thing which should be tried when factoring any problem is _____.
(b) List the methods which should be used to factor a polynomial with the given number of terms.
2 terms _____
3 terms _____
4 terms _____
(c) In order for factoring by grouping to work, _____ must result in the second step of the process.
6. (a) Before performing long or synthetic division, you must check for _____.
(b) Synthetic division can be performed only when dividing by _____.

7. (a) The symbols $f[g(x)]$ is pronounced as _____ .

(b) $f[g(x)]$ is found by _____ .

(c) A second notation for $f[g(x)]$ is _____ .

8. (a) A function is _____
_____ .

(b) You can determine whether the **graph** of a relation is a function by _____
_____ .

9. List the following rules, facts, or formulas.

a) Rules for factoring the following:

$$a^2 - b^2 = \underline{\hspace{10em}} \qquad a^3 - b^3 = \underline{\hspace{10em}}$$

$$a^2 + b^2 = \underline{\hspace{10em}} \qquad a^3 + b^3 = \underline{\hspace{10em}}$$

b) Steps for finding the inverse equation of a function