The Factor Theorem

Name _____

Date _____ Period _____

Factor Theorem

The binomial $(x - a)$ is a factor of polynomial $f(x)$ if and only if $f(a) = 0$.

$$f(x) = x^4 - 13x^2 + 36$$

Is the following binomial a factor of $f(x)$?

$(x - 2)$ $(x + 1)$

Factor Theorem

The binomial $(x - a)$ is a factor of polynomial $f(x)$ if and only if $f(a) = 0$.

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

Is the following binomial a factor of $f(x)$?

$(x - 1)$ $(x + 1)$

Factor Theorem

The binomial $(x - a)$ is a factor of polynomial $f(x)$ if and only if $f(a) = 0$.

$$f(x) = x^3 + 3x^2 - 10x - 24$$

Is the following binomial a factor of $f(x)$?

$(x + 2)$ $(x - 3)$

Factor Theorem

The binomial $(x - a)$ is a factor of polynomial $f(x)$ if and only if $f(a) = 0$.