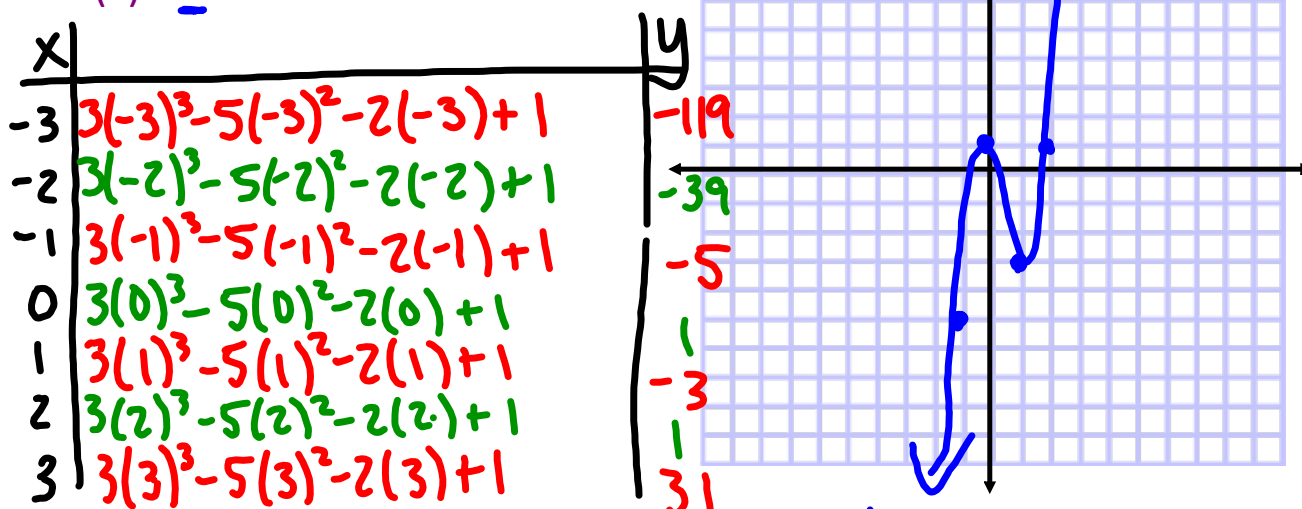


6.2 GRAPHING POLYNOMIALS

There are several ways to graph polynomial functions. We'll start by making a **table of values**. Let's use $x = -3, -2, -1, 0, 1, 2, 3$.

Graph the function below.

$$f(x) = 3x^3 - 5x^2 - 2x + 1$$



What is the shape of the graph?

N-shaped

How many U-turns are there?

2 turns

Is the degree even or odd?

odd

Is the leading coefficient pos. or neg.?

pos.

Describe the end behavior.

Left

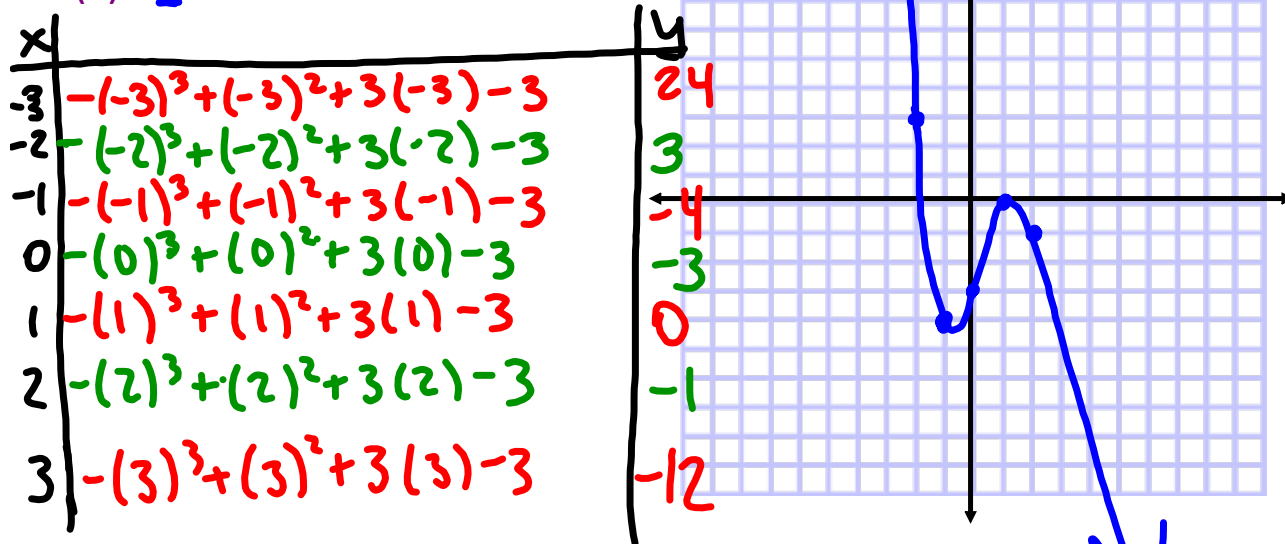
as $x \rightarrow -\infty$,
 $f(x) \rightarrow -\infty$

Right

as $x \rightarrow \infty$,
 $f(x) \rightarrow \infty$

Graph the function below.

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



What is the shape of the graph?

S-shaped

How many U-turns are there?

2 turns

Is the degree even or odd?

Is the leading coefficient pos. or neg.?

Describe the end behavior.

Left

as $x \rightarrow -\infty$,
 $f(x) \rightarrow \infty$

Right

as $x \rightarrow \infty$,
 $f(x) \rightarrow -\infty$