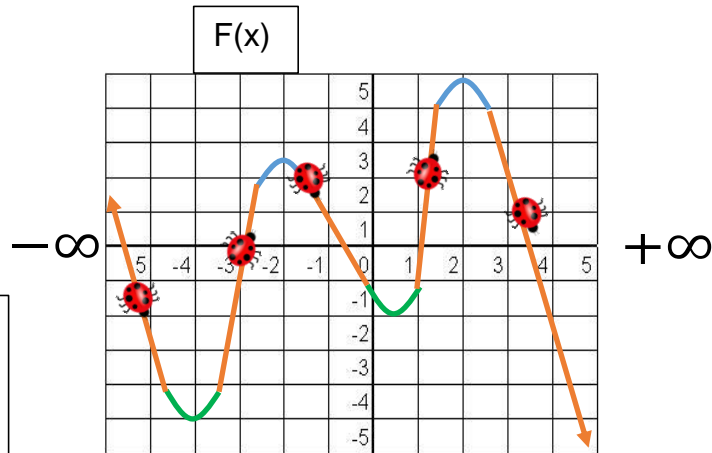


Function Analysis using Ladybugs

EXAMPLE



Remember:
Intervals are x-values only!
Moving from left ($-\infty$)
to right ($+\infty$)

1. $F(x)$ decreasing $(-\infty, -4) \cup (-2, \frac{1}{2}) \cup (2, \infty) \rightarrow$ Wherever ladybug goes downhill.
Always increase and decrease between MAX & MIN
2. $F(x)$ increasing $(-4, -2) \cup (\frac{1}{2}, 2) \rightarrow$ Wherever ladybug goes uphill.
3. $F(x)$ relative (local) minimum (x- value only) $x = -4, x = \frac{1}{2}$
4. $F(x)$ relative (local) maximum (x- value only) $x = -2, x = 2$
5. Degree of $F(x)$ $-x^5$ "degree" is **ONE** more than # turning pts. ("bumps") on graph
6. End Behavior: As $x \rightarrow \infty$ $F(x) \rightarrow -\infty$
 $x \rightarrow -\infty$ $F(x) \rightarrow +\infty$