

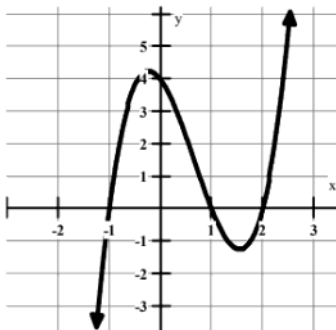
• Day 2

1.2 - Characteristics of Polynomial Functions

Day 2

Intervals of Increase - interval(s) where y increases as x increases**Intervals of Decrease** - interval(s) where y decreases as x increases**Positive Intervals** - interval(s) where the function lies above the x -axis**Negative Intervals** - interval(s) where the function lies below the x -axis**EX 1** - Answer the questions based on the function below:

- a) State the intervals of increase and decrease (using interval notation)

**Finite Differences**For a polynomial function of degree n , the value of n -th differences, Δ^n :

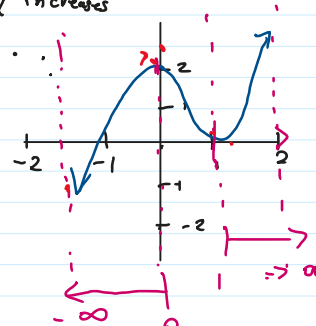
- Are equal (or constant)
- Have the same sign as the leading coefficient (a)
- Are equal to $a[(n)(n-1)(n-2) \dots (2)(1)]$

1.2 day 2 notes

Intervals of increase:

↳ an interval or "period", where y increases as x increases

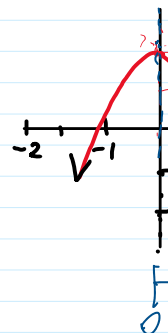
↳ Ex:

* Look @ x values.

Intervals of decrease:

↳ an interval or "period" as x increases.

↳ Ex



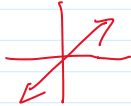
• Example questions:

↳ State intervals of

Answer: inc

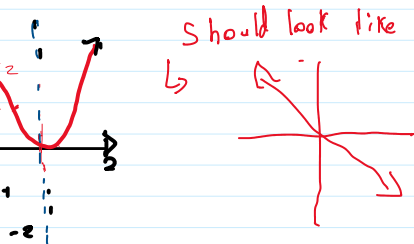
splitting up the part of the graph
where the y-value increases as x-value
increases.

It looks like:



If y-value decreases as x-value decreases
It counts as an interval of increase

d" where y decreases



increase / decrease

: $x \in (\text{first number (or } \infty), \text{second number (or } \infty))$

if multiple intervals of increase or decrease:

Put: $x \in (\#, \#) \cup (\#, \#)$

↑
correct