

## **POLYNOMIAL Functions**

What are polynomials? <https://www.youtube.com/watch?v=xmJjQ3KyTdw>

Polynomial Functions (start at the 2 min mark):

<https://www.youtube.com/watch?v=xzcwzBiD5w8>

End Behavior: <https://www.youtube.com/watch?v=k6JppISqhj4>

## **PROPERTIES WITH POLYNOMIALS**

Adding: <https://www.youtube.com/watch?v=ahdKdxsTj8E>

Subtracting: <https://www.youtube.com/watch?v=5ZdxnFspyP8>

Adding/Subtracting Polynomials: <https://www.youtube.com/watch?v=-1Mxuqifo1k>

Multiplying:

[https://www.youtube.com/watch?annotation\\_id=annotation\\_2909028083&feature=iv&src\\_vid=wUYa2NAV5t4&v=J18DrAkvaYg](https://www.youtube.com/watch?annotation_id=annotation_2909028083&feature=iv&src_vid=wUYa2NAV5t4&v=J18DrAkvaYg)

FOIL: <https://www.youtube.com/watch?v=BbaCM1S70bA>

Punnett Square: <https://www.youtube.com/watch?v=VNZLqJhsnv0>

Pascal's Triangle: <https://www.youtube.com/watch?v=YUqHdxxdbyM>

Dividing:

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$a = 1$  [https://www.youtube.com/watch?v=\\_3BSI7oNABM](https://www.youtube.com/watch?v=_3BSI7oNABM)

$a > 1$ : <https://www.youtube.com/watch?v=WIZOU5Cc6aQ>

Synthetic Division: <https://www.youtube.com/watch?v=bZoMz1Cy1T4>

Long Division: <https://www.youtube.com/watch?v=FTRDPB1wR5Y>

Remainder Theorem: <https://www.youtube.com/watch?v=MHtTP6vc4RU>

## **FACTORING**

GCF: [https://www.youtube.com/watch?v=UxBO7GXFh\\_Y](https://www.youtube.com/watch?v=UxBO7GXFh_Y)

$a = 1$ : <https://www.youtube.com/watch?v=Mso0lciztHk>

$a > 1$ : <https://www.youtube.com/watch?v=r1JAJfmRG5w>

Grouping:

[https://www.youtube.com/watch?annotation\\_id=annotation\\_1740409739&feature=iv&src\\_vid=hiGJwMNNsM&v=lsn-gwWh\\_hw](https://www.youtube.com/watch?annotation_id=annotation_1740409739&feature=iv&src_vid=hiGJwMNNsM&v=lsn-gwWh_hw)

DIFFERENCE OF PERFECT SQUARES:

$a = 1$  [https://www.youtube.com/watch?v=AcCN\\_isD3PY](https://www.youtube.com/watch?v=AcCN_isD3PY)

$a \neq 1$  <https://www.youtube.com/watch?v=jmbg-DKWuc4>

SUMS and DIFFERENCES of CUBES: <https://www.youtube.com/watch?v=eXjxF1I9o4E>

Factor Theorem: <https://www.youtube.com/watch?v=P-RvhBqBPOA>

## SOLVING

Factoring: [https://www.youtube.com/watch?v=g7\\_llQnLepA](https://www.youtube.com/watch?v=g7_llQnLepA)

Rational Root Theorem: <https://www.youtube.com/watch?v=nefUHSICsgY>

Irrational Conjugate Theorem: <https://www.youtube.com/watch?v=ZQjq-o9ZBek>

## THEOREMS

Fundamental Theorem of Algebra: <https://www.youtube.com/watch?v=d8-LO6FCna0>

Complex Conjugate Root Theorem: <https://www.youtube.com/watch?v=5N8xDwNe8og>

Descartes Rule of Signs: <https://www.youtube.com/watch?v=G7T1EY9i44Y>

## TRANSFORMATIONS

Transforming Polynomials: <https://www.youtube.com/watch?v=W3507Fkw1No>

Analyzing Graphs of Polynomials: [https://www.youtube.com/watch?v=\\_Q\\_kmUHOays](https://www.youtube.com/watch?v=_Q_kmUHOays)

Turning Points: <https://www.youtube.com/watch?v=Fs9wYJAWSk8>

Real-Life Application: <https://www.youtube.com/watch?v=EvvxBdNIUeQ>