

Unit 5 Intro To Polynomials

5.1 The Language of Algebra

Algebra - Branch of mathematics that uses symbols to represent unknown numbers or quantities

Term - An expression formed from the product (quotient) of numbers and/or variables

Ex.

5

constant
term

$7x$

coefficient
= 7

$-3ab$

alpha
order

$\frac{y}{2} = \frac{1}{2}y$

$-0.7x^3$

coefficient exponent
variable (base)

* one term expressions = monomials

Polynomial - An algebraic expression made up of terms connected by addition or subtraction

Ex.

$x + 5$

$3x^2 - 2$

$7xy + x^2$

two terms
= binomials

Ex.

$x - y + 1$

$2x^3 - 3x + 5$

$2x^2y + 6x - y$

three terms
= trinomials

Degree of a term - sum of the exponent(s) on the variable(s) in a monomial

Ex. For each given term state the degree:

Term	Degree
$5x^2$	2
$-4xy^2$	3
a^3bc^2	6
$4x^0$	0

4bc Degree = 1

Degree of a polynomial - the value of the largest degree term in the polynomial

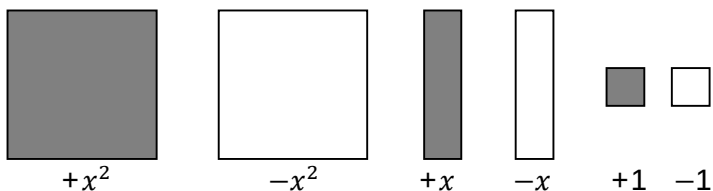
Ex. For each given polynomial state the degree:

Polynomial	Degree
$7a^3 - 3a^2$	3
$ab^4 + 2a^3b^3$	6
$3x + 4xy - 2$	2
$5x + z - 6$	1

Ex. For each algebraic expression state the number of terms, the expression type & the degree:

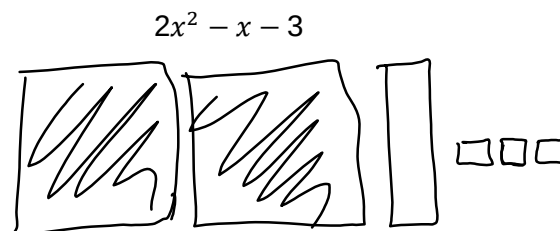
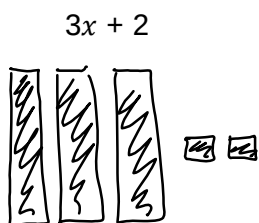
Expression	# of terms	Expression type	Degree
$ab^2 - ab + 1$	3	trinomial	3
$4x^2 + 3$	2	binomial	2
99	1	monomial	0
$-4x^2 + x^3y - y^3 + 10$	4	polynomial	4

We can model expressions with **algebra tiles**.



*NOTE: Textbook uses colours for positives & white for negatives

Ex. Model each expression with algebra tiles (sketch):



Ex. State the expression shown:

