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Introduction to Polynomials – Naming Polynomials by Number of Terms

The diagram illustrates the components of a polynomial. On the left, four items are listed with their costs: a house for \$300, an envelope for \$4x, a record player for \$50y, and a dress for \$z. On the right, a polynomial expression $300 + 4x + 50y + z$ is shown. The first three terms (300, 4x, and 50y) are grouped under the label 'TRINOMIAL', and the last term (z) is under the label 'MONOMIAL'.

- 1 Decide if the given term is a monomial, binomial, trinomial, or polynomial.
- 2 Identify which of the following statements about monomials are true.
- 3 Find the term representing the cost of Bella's quinceanera.
- 4 Analyze the following terms.
- 5 Establish the polynomial representing the total cost of Bella's next shopping trip.
- 6 Simplify the monomials and then add them together to make a polynomial.
- + with lots of tips, answer keys, and detailed answer explanations for all of the problems.



The complete package, including all problems, hints, answers, and detailed answer explanations is available for all [sofatutor.com](https://www.sofatutor.com) subscribers.



Decide if the given term is a monomial, binomial, trinomial, or polynomial.

Match the elements.

The term $4x^3$ is a	A	1	polynomial.
The term $300 + 4x + 50y$ is a	B	2	monomial.
The difference $4x^3 - \frac{1}{3}x^2$ is a	C	3	hyponomial.
Any term with more than three monomials is a	D	4	fournomial.
		5	binomial.
		6	trinomial.



Hints for solving these problems

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Decide if the given term is a monomial, binomial, trinomial, or polynomial.

Hint #1

Monomials are coefficients times variables raised to non-negative, integer exponents.

Hint #2

$-\frac{1}{3}x^2$ is an example of a monomial.

Hint #3

- **Mono** stands for one.
 - **Bi** stands for two.
 - **Tri** stands for three.
 - **Poly** stands for many.
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Answers and detailed answer explanations for these problems

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of 6

Decide if the given term is a monomial, binomial, trinomial, or polynomial.

Answer key: A—2 // B—6 // C—5 // D—1

Monomials are coefficients times variables raised to non-negative, integer exponents.

- A term of two monomials is a **binomial**.
- A term of three monomials is a **trinomial**.
- A term of more than three monomials is a **polynomial**.

Let's look at some examples:

Monomials

- $4x^3$
- $-\frac{1}{3}x^2$
- x
- 5
- 1

Binomials

- $4x^3 - \frac{1}{3}x^2$
- $x + 5$

Trinomials

- $4x^3 - \frac{1}{3}x^2 + x$
- $4x^3 + x + 1$

Polynomials

- $4x^3 - \frac{1}{3}x^2 + x + 5$
- $4x^3 - \frac{1}{3}x^2 + x + 1$