

What Cannot Be A Polynomial?

If any term has a variable with a negative exponent, then the expression is not a polynomial.

$$x + 4 + x^{-3}$$

A term with division by a variable is equivalent to a negative exponent, so such an expression is not a polynomial.

$$5/x^2 = 5x^{-2}$$

If a term has a variable with a fractional exponent (that does not reduce to a whole number), the expression is not a polynomial.

$$2 + 7x + x^{1/3}$$

A term with a variable in a radical is equivalent to a fractional exponent, so such an expression is not a polynomial.

$$4 - 3x + \sqrt{x}$$