

1. Which of the following expressions is a **binomial**? Explain why. Out of the other two expressions, which is a **trinomial** and which is a **monomial**?

a) $x^2 + 2x + 1$

trinomial

b) $7 - x^2$

binomial

c) $5x^2$

monomial

2. Use the following information to determine what the **degree** of a polynomial is:

a) The polynomial $x^4 + 3x^2 + 2$ has a **degree** of 4.

b) The polynomial $2x - 4x^3 + 8$ has a **degree** of 3.

c) The polynomial $7 - x^2$ has a **degree** of 2.

What is the **degree** of a polynomial?

The biggest exponent in the equation

3. Use the following information to determine what the **leading coefficient** for a polynomial is:

a) The polynomial $1x^4 + 3x^2 + 2$ has a **leading coefficient** of 1.

b) The polynomial $2x - 4x^3 + 8$ has a **leading coefficient** of -4.

c) The polynomial $7 - x^2$ has a **leading coefficient** of -1.

What is the **leading coefficient** of a polynomial?

The leading coefficient is the number in front of the largest degree

4. Below are three examples of expressions. One is a **linear** expression. One is a **quadratic** expression and one is a **cubic** expression. What makes these expressions different? Identify each type of expression.

a) $7 - x^2$

quadratic

b) $-x^3 - 2x + 1$

Cubic

c) $x^1 + 6$

linear

<p>Expression: $2x^2 + 3$</p> <p>1) Circle One: Monomial, Binomial, Trinomial</p> <p>2) Degree: <u>2</u></p> <p>3) Leading Coefficient: <u>2</u></p> <p>4) Circle One: Linear, Quadratic, Cubic</p>	<p>Expression: $4x^3 + 2$</p> <p>1) Circle One: Monomial, Binomial, Trinomial</p> <p>2) Degree: <u>3</u></p> <p>3) Leading Coefficient: <u>4</u></p> <p>4) Circle One: Linear, Quadratic, Cubic</p>
<p>Expression: $6x^2$</p> <p>1) Circle One: Monomial, Binomial, Trinomial</p> <p>2) Degree: <u>2</u></p> <p>3) Leading Coefficient: <u>6</u></p> <p>4) Circle One: Linear, Quadratic, Cubic</p>	<p>Expression: $4x - 3x^3 + 4$</p> <p>1) Circle One: Monomial, Binomial, Trinomial</p> <p>2) Degree: <u>3</u></p> <p>3) Leading Coefficient: <u>-3</u></p> <p>4) Circle One: Linear, Quadratic, Cubic</p>