

# Intro to Polynomials Vocabulary

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Degree:

Term:

Standard Form:

|             |        |       |   |       |
|-------------|--------|-------|---|-------|
| Term        | $4x^3$ | $-3x$ | 6 | $x^2$ |
| Coefficient |        |       |   |       |
| Power of x  |        |       |   |       |

| Number of Terms | Name by # of Terms | Degree    | Name by Degree |
|-----------------|--------------------|-----------|----------------|
| 1               |                    | 0         |                |
| 2               |                    | 1         |                |
| 3               |                    | 2         |                |
| 4 or More       |                    | 3         |                |
|                 |                    | 4 or More |                |

| Polynomial            | Standard Form | Degree | Name by Degree | # Terms | Name by # Terms |
|-----------------------|---------------|--------|----------------|---------|-----------------|
| $6x + x^4 - 2x^2 + 5$ |               |        |                |         |                 |
| $x + 3$               |               |        |                |         |                 |
| 8                     |               |        |                |         |                 |
| $9x - 4x^3 + 6$       |               |        |                |         |                 |
| $2 - 7x^2$            |               |        |                |         |                 |

### Exercises

1-12: Fill in the table with the given polynomial's standard form, degree, name by degree and name by # of terms.

| #  | Polynomial                 | Standard Form | Degree | Name by Degree | Name by Number of Terms |
|----|----------------------------|---------------|--------|----------------|-------------------------|
| 1  | $2x + x^3 - 8$             |               |        |                |                         |
| 2  | $1 + 5x - 2x^2$            |               |        |                |                         |
| 3  | $7x^2$                     |               |        |                |                         |
| 4  | $x^4 + 5 - 2x^2$           |               |        |                |                         |
| 5  | 11                         |               |        |                |                         |
| 6  | $5x + 2x^3 + 6$            |               |        |                |                         |
| 7  | $x^5 + 5x + x^2 - 4 + x^3$ |               |        |                |                         |
| 8  | $x - 2$                    |               |        |                |                         |
| 9  | $9 + x$                    |               |        |                |                         |
| 10 | $x^2 - x^3 + 3$            |               |        |                |                         |
| 11 | $-x^2$                     |               |        |                |                         |
| 12 | -9                         |               |        |                |                         |

# Intro to Polynomials Vocabulary – Answers

Degree: highest power/  
largest exponent

Term: coefficient times a variable to  
a power

$-2x^5$

Standard Form: terms in decreasing powers of x

$$3x^5 + 2x^2 - x + 8$$

|             |        |       |   |       |
|-------------|--------|-------|---|-------|
| Term        | $4x^3$ | $-3x$ | 6 | $x^2$ |
| Coefficient | 4      | -3    | 6 | 1     |
| Power of x  | 3      | 1     | 0 | 2     |

| Number of Terms | Name by # of Terms | Degree    | Name by Degree                                    |
|-----------------|--------------------|-----------|---|
| 1               | Monomial           | 0         | Constant  |
| 2               | Binomial           | 1         | Linear  |
| 3               | Trinomial          | 2         | Quadratic   |
| 4 or More       | Polynomial         | 3         | Cubic   |
|                 |                    | 4 or More | 4 <sup>th</sup> , 5 <sup>th</sup> , ... (Ordinal) |

Tip: Be ready to answer “why does quadratic mean power of 2 when quad means 4?”

Think of squares. Four sides. However, area of a square is represented by  $x^2$

| Polynomial            | Standard Form         | Degree | Name by Degree         | # Terms | Name by # Terms |
|-----------------------|-----------------------|--------|------------------------|---------|-----------------|
| $6x + x^4 - 2x^2 + 5$ | $x^4 - 2x^2 + 6x + 5$ | 4      | 4 <sup>th</sup> Degree | 4       | Polynomial      |
| $x + 3$               | $x + 3$               | 1      | Linear                 | 2       | Binomial        |
| 8                     | 8                     | 0      | Constant               | 1       | Monomial        |
| $9x - 4x^3 + 6$       | $-4x^3 + 9x + 6$      | 3      | Cubic                  | 3       | Trinomial       |
| $2 - 7x^2$            | $-7x^2 + 2$           | 2      | Quadratic              | 2       | Binomial        |

### Exercises

1-12: Fill in the table with the given polynomial's standard form, degree, name by degree and name by # of terms.

| #  | Polynomial                 | Standard Form              | Degree | Name by Degree         | Name by Number of Terms |
|----|----------------------------|----------------------------|--------|------------------------|-------------------------|
| 1  | $2x + x^3 - 8$             | $x^3 + 2x - 8$             | 3      | Cubic                  | Trinomial               |
| 2  | $1 - 2x^2$                 | $-2x^2 + 1$                | 2      | Quadratic              | Binomial                |
| 3  | $7x^2$                     | $7x^2$                     | 2      | Quadratic              | Monomial                |
| 4  | $x^4 + 5 - 2x^2$           | $x^4 - 2x^2 + 5$           | 4      | 4 <sup>th</sup> Degree | Trinomial               |
| 5  | 11                         | 11                         | 0      | Constant               | Monomial                |
| 6  | $5x + 2x^3 + 6$            | $2x^3 + 5x + 6$            | 3      | Cubic                  | Trinomial               |
| 7  | $x^5 + 5x + x^2 - 4 + x^3$ | $x^5 + x^3 + x^2 + 5x - 4$ | 5      | 5 <sup>th</sup> Degree | Polynomial              |
| 8  | $x - 2$                    | $x - 2$                    | 1      | Linear                 | Binomial                |
| 9  | $9 + x$                    | $x + 9$                    | 1      | Linear                 | Binomial                |
| 10 | $x^2 - x^3 + 3$            | $-x^3 + x^2 + 3$           | 3      | Cubic                  | Trinomial               |
| 11 | $-x^2$                     | $-x^2$                     | 2      | Quadratic              | Monomial                |
| 12 | -9                         | -9                         | 0      | Constant               | Monomial                |