

Practice Problem Set

ANSWER KEY

1. Classify the following polynomials by completing the table below.

Polynomial	Most Specific Name	Standard Form	Degree	Leading Coefficient
$5 - 2x$	binomial	$-2x + 5$	1	-2
$5x^6$	monomial	$5x^6$	6	5
$4 - x^2 + x$	trinomial	$-x^2 + x + 4$	2	-1
$3 - 7x^5 + 8x - 2x^7$	polynomial	$-2x^7 - 7x^5 + 8x + 3$	7	-2
15	monomial	15	0	15

2. Which polynomial expression is written in **standard form**?

A. $5x + 4x^2 + 3x^3 - 2$

B. $5x^3 + 6x^4 + 7x^5$

C. $8x + 3x^2 + 1$

D. $-2x^4 + 6x^3 - x$

A polynomial is written in standard form when the degrees (exponents) are ordered from largest to smallest.
 $-2x^4 + 6x^3 - x^1$

3. Which polynomial expression(s) have a **leading coefficient of 5** and a **degree of 3**?

Select all that apply. **B, F, I**

A. $3x^5 + 2x^4 - 7x^3 + x^2$

Standard Form:

$3x^5 + 2x^4 - 7x^3 + x^2$

Leading Coefficient: **3**

Degree: **5**

B. $5x^3 - 3x + 11$

Standard Form:

$5x^3 - 3x + 11$

Leading Coefficient: **5**

Degree: **3**

C. $x - 5x^3$

Standard Form:

$-5x^3 + x$

Leading Coefficient: **-5**

Degree: **3**

D. $5x^2 - 2x^3 + 9x + 1$

Standard Form:

$-2x^3 + 5x^2 + 9x + 1$

Leading Coefficient: **-2**

Degree: **3**

E. $3x^5 + 3x - 3$

Standard Form:

$3x^5 + 3x - 3$

Leading Coefficient: **3**

Degree: **5**

F. $8x^2 + 4x + 5x^3$

Standard Form:

$5x^3 + 8x^2 + 4x$

Leading Coefficient: **5**

Degree: **3**

G. $x^3 + 5$

Standard Form:

$1x^3 + 5$

Leading Coefficient: **1**

Degree: **3**

H. $5x^3 - 9x^5$

Standard Form:

$-9x^5 + 5x^3$

Leading Coefficient: **-9**

Degree: **5**

I. $10 + 5x^3 - x + 3x^2$

Standard Form:

$5x^3 + 3x^2 - x + 10$

Leading Coefficient: **5**

Degree: **3**