Polynomials and Exponents

Math H

Name _____ Class _____ Date _____

1 The expression $2x^2$ is a type of polynomial called a **binomial**.

True or false?

A true
B false

2 The polynomial, $6x^2 + 4x^3 + 2x + 1$, is written in **standard form**.

True or false?

A true
B false

3 **Add** the polynomials:

$(x^3 + 2x^2 + x + 5) + (2x^3 + x^2 + 4x + 1)$

A $2x^3 + 2x^2 + 4x + 6$
B $3x^3 + 3x^2 + 4x + 6$
C $3x^3 + 3x^2 + 5x + 6$
D

4 **Add** the polynomials:

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

A $5x^3 - 2x^2 + 3x - 9$
B $9x^3 - 6x^2 + 2x - 1$
C $5x^3 - 2x^2 - x - 9$

5

7

A $-3x^3 + 3x^2$
B $-3x^3 + x^2 + 2x$
C $-3x^3 + x^2$
D $-3x^3 + 3x^2 + 2x$

A $5x^3 + 4x^2 - 7$
B $x^3 - 4x^2 - 7$
C $x^3 - 2x^2 + 2x - 7$
D $5x^3 - 2x^2 + 2x - 7$

9 **Add** the polynomials using the vertical format:

$$\begin{array}{r} 6x^3 + 2x - 9 \\ +\ (-4x^3 + 3x - 7) \\ \hline \end{array}$$

A $-2x^3 + 5x - 16$
B $10x^3 + 5x - 2$
C $2x^3 + 5x - 16$
D $10x + 5x - 16$

10 **Subtract** the polynomials using the vertical format:

$$\begin{array}{r} x^4 + 2x^3 + x - 6 \\ -\ (x^4 + 4x + 3) \\ \hline \end{array}$$

A $2x^3 - 3x - 9$
B $2x^4 + 2x^3 - 3x - 9$
C $2x^3 + 5x - 3$
D $2x^4 + 2x^3 - 3x - 3$

ANSWER KEY

The expression $2x^2$ is a type of polynomial called a **binomial**.

True or false?

b

A true
B false

The polynomial, $6x^2 + 4x^3 + 2x + 1$, is written in **standard form**.

True or false?

b

A true
B false

Add the polynomials:

$(x^3 + 2x^2 + x + 5) + (2x^3 + x^2 + 4x + 1)$

c

A $2x^3 + 2x^2 + 4x + 6$
B $3x^3 + 3x^2 + 4x + 6$
C $3x^3 + 3x^2 + 5x + 6$
D $2x^3 + 2x^2 + 5x + 6$

Add the polynomials:

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

d

A $5x^3 - 2x^2 + 3x - 9$
B $9x^3 - 6x^2 + 2x - 1$
C $5x^3 - 2x^2 - x - 9$
D $9x^3 - 6x^2 + 3x - 1$

B $-3x^3 + x^2 + 2x$
C $-3x^3 + x^2$
D $-3x^3 + 3x^2 + 2x$

B $x^3 - 4x^2 - 7$
C $x^3 - 2x^2 + 2x - 7$
D $5x^3 - 2x^2 + 2x - 7$

Add the polynomials using the vertical format:

$$\begin{array}{r} 6x^3 + 2x - 9 \\ +\ (-4x^3 + 3x - 7) \\ \hline \end{array}$$

c

A $-2x^3 + 5x - 16$
B $10x^3 + 5x - 2$
C $2x^3 + 5x - 16$
D $10x + 5x - 16$

Subtract the polynomials using the vertical format:

$$\begin{array}{r} x^4 + 2x^3 + x - 6 \\ -\ (x^4 + 4x + 3) \\ \hline \end{array}$$

a

A $2x^3 - 3x - 9$
B $2x^4 + 2x^3 - 3x - 9$
C $2x^3 + 5x - 3$
D $2x^4 + 2x^3 - 3x - 3$