Buchanan

Math 9

Polynomials Practice Test

Name: KEY

1. Fill in the blanks:

a) The TERMS are the number of monomials in a polynomial

b) A BINOMIAL is a polynomial with two terms

c) A number multiplied by a variable is known as a COEFFICIENT

d) In the equation that follows, x is known as a VARIABLE $x + 3 = 5$

e) A CONSTANT is a term without a variable

f) An EXPONENT is a number that tells you how many of each variable are in a single term

g) The DEGREE of a polynomial, tells you the greatest number of exponents (or variables) in any single term in a polynomial

Constant	Coeffiecient	Variable	Exponent
Binomial	Term	Degree	Monomial

2. How many terms are in the following polynomial? $2x^2 + 3xz - 4 - 5zy + 4x$

5

3. What is the degree of the following polynomial? $3xy + 4x^2y - 2x^2y^2z$

=2 =3 =5

DEGREE OF 5

4. Identify the following features in the polynomial: $3z^3 - 3 + 7x^2 - 9y$

a) Variable(s): z, x, y

b) Constant term(s): -3

c) Coefficient(s): 3, 7, -9

d) Exponent(s): 3, 2

5. Using whatever you would like, identify *like terms* in the polynomial:

$$(8 + 3x - x^2y + z^2) + (4x^2y - 7z^2 - 6)$$

6. Simplify the following polynomials:
   a) $7x + 6 - 8x - 8 + 2x - 5$

$x - 7$

   b) $6a^2 + 7a - 3 - 2a^2 - 7a + 6$

$4a^2 + 3$

7. Create a polynomial with 6 terms, that simplifies to 3 terms, with a degree of 3

ANSWERS WILL VARY MAKE SURE: 1/SIX TERMS 2/REDUCES TO THREE TERMS 3/DEGREE OF 3

$4x^2y + 2x - 4y - 6x^2y + 9x + 7y$

$-2x^2y + 11x + 3y$

8. Simplify the following polynomials:
   a) $(3x - 7x^2 + 3y) + (2y - 6x + 6x^2)$

$x^2 - 3x + 5y$

   b) $-(5y - 9x + 7) - (-3 + 5y + 7x)$

$-5y + 9x - 7 + 3 - 5y - 7x$

$2x - 10y - 4$

9. The sum of two polynomials is 14x +6. If one of the polynomials in the equation is 6x – 5, what is the other polynomial?

$(6x - 5) + (\quad) = 14x + 6$

$(14x + 6) - (6x - 5) = 8x + 11$

10. Determine the product of each:

a) $7(-43x)$

$= -301x$

b) $3(-4m + 8)$

$-12m + 24$

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

$15x^2 - 35x$

11. Determine the quotient of each:

a) $\frac{16-24m}{4}$

$4 - 6m$

or

$-6m + 4$

b) $\frac{18-27q+9q^2}{3}$

$6 - 9q + 3q^2$

or

$3q^2 - 9q + 6$

c) $\frac{7-21x+63x^4}{7}$

$1 - 3x + 9x^4$

$9x^4 - 3x + 1$

12. Determine the product:

a) $(8s)(6s)$

$48s^2$

b) $(-7x)(8x^2)$

$-56x^3$

c) $(-4x^2)(-12x^2y)$

$48x^4y$

d) $-3y(-2y^2 + 5x)$

$6y^3 - 15xy$

e) $(3 + 6n - 4n^2)(-7n)$

$-21n - 42n^2 + 28n^3$

or

$28n^3 - 42n^2 - 21n$

13. Determine the quotient:

a) $\frac{48x}{3x}$ $= 16$

b) $42j \div (-6j)$

$= -7$

c) $\frac{14y^2 - 21y}{-7y}$

$-2y + 3$

d) $\frac{-12a^3 - 66a + 54a^2}{-6a}$

$2a^2 + 11 - 9a$

or

$2a^2 - 9a + 11$