

Name: _____

Block: _____

Algebra2 : Polynomials and Polynomial Equations

A

1. There are 20 questions in this test, each worth 2pts.
2. Extra-credit: There are 2 additional questions, worth 1pt each.
3. You have 40 minutes to complete the test (more if you have accommodations).

I want this to be a demonstration of your knowledge of the material studied.

There are no tricky-questions. Most (all!) of the questions are similar to things you have seen in class examples, homework, and worksheets.

HINTS available:

This is meant to avoid getting zero on a question because you forgot a formula, or blanking out.

1. Each question has a designated hint to it.
2. You can buy a hint for 0.5 point.
3. You will NOT get negative points on a question.
4. Hints can be bought only after 20 minutes from start of test, and not later than 5 minutes before the end. I will try and announce these times.

Again, the goal is to avoid having empty answers!

Good luck!!

-Zachi

=== Start of test

- 1) Given the expression $2x^5 + 4x$, answer the below three questions:
- The polynomial has _____ terms
 - The degree of the polynomial is _____
 - Circle most appropriate name: Binomial , Trinomial , Polynomial

2) Simplify $(2x^2y + 2xy^2 - 3xy - 5) + (-5x^2y - 3xy^2 + 4xy + 8)$

3) Simplify $(x^3 + 3x^2 - 2x + 2) - (-x^3 + 3x^2 - 8x + 4)$

4) Simplify $(2x + 3y)(4x + y)$

5) Simplify $(5y + 3x)^2$

6) Simplify $(3x + 5)(2x^2 + 7x - 3)$

7) Simplify $(3x - 2y)(9x^2 + 6xy + 4y^2)$

8) Factor $y^2 - 10y + 25$

9) Factor $y^3 - 6y^2 + 9y$

10) Factor $x^4 - 81$

11) Factor $x^3 - 27y^3$

12) Factor $6y^2 + 17y + 12$

13) Factor $2x^2 + 2x - 24$

14) Factor $3x^4 - 14x^2 + 15$

15) Factor $6x^4 - 10x^3 + 9x - 15$

16) Factor $2x^3 + 3x^2 - 2x - 3$

17) Solve $m^2 = 4m$

18) Solve $n^2 + 8n = -15$

19) Solve $8r^2 - 3r + 1 = 7r^2 - 6r - 1$

20) Solve $x^2 = 36$

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Extra-credit

21) Solve for x and y:

$$\begin{cases} 2x + 3y = 11 \\ 3x + 2y = 9 \end{cases}$$

22) if $ab = 2$ and $(a - b)^2 = 10$, then what is the value of $a^2 + b^2$?

=== End of test