Hwk #12

1. Define the word MONOMIAL:

A number, a variable (with or without exponents),
or the product of a number and more than one variable

2. Give four examples of monomials that aren't in the book.

a. 10 b. x c. $\frac{x}{2} = x \cdot \frac{1}{2}$ d. $-3x^4y^7z^9$

3. How do you find the degree of a monomial?

Add up the exponents of the variables

4. State the degree of each monomial:

a) $5a^4b^6$ degree= 10

b) $-12R^6M$ degree= 7

c) 83 degree= 0

$6^2a^5b^7 = 36a^5b^7$

degree $5+7=12$

NOT $2+5+7$

5. Define the word POLYNOMIAL:

A monomial or the sum or difference of two or more monomials.

6. What is Standard Form of a polynomial in one variable?

The terms are written in descending order of exponents

(simplify by using distributive property and combining like terms first)

7. Put each polynomial into Standard Form:

a) $-5x + 3x^2 + 7 - x^3$

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

b) $9m^2 + 3m^4 - 2m + m^2$

$3m^4 + 10m^2 - 2m$

c) $2w^3 - w(w+3) + w^2$

$2w^3 - 3w$

8. What is the degree of a polynomial in one variable?

The largest exponent after expanding!

The first exponent if it's written in standard form.

9. State the degree of each polynomials from question 7.

a) $-x^3+3x^2-5x+7$ degree= 3

b) $3m^4+10m^2-2m$ degree= 4

c) $2w^3-3w$ degree= 3

10. Terms of a polynomial are separated by what math symbols?

Addition or Subtraction

11. Polynomials are given names because of their degree and because of the number of terms.

Fill in the spaces using the proper names.

Degree of Polynomial	Name because of Degree
0	Constant
1	Linear
2	Quadratic
3	Cubic
4	4th degree...

# of terms in polynomial	Name because of # of terms
1	Monomial
2	Binomial
3	Trinomial

For each polynomial do the following:
a. Write the polynomial in standard form. First simplify by using Distributive Property and combining like terms.
b. State the degree of the polynomial.
c. Name the polynomial using its degree.
d. Name the polynomial using the number of terms.

12. $4 - 8y^3 + 7y$

a. $-8y^3 + 7y + 4$

b. Degree = 3

c. Cubic

d. Trinomial

For each polynomial do the following:
a. Write the polynomial in standard form. First simplify by using Distributive Property and combining like terms.
b. State the degree of the polynomial.
c. Name the polynomial using its degree.
d. Name the polynomial using the number of terms.

13. $6a + 7a^2 - 4 + 8a - a^2$

a. $6a^2 + 14a - 4$

b. degree = 2

c. Quadratic

d. Trinomial

For each polynomial do the following:
a. Write the polynomial in standard form. First simplify by using Distributive Property and combining like terms.
b. State the degree of the polynomial.
c. Name the polynomial using its degree.
d. Name the polynomial using the number of terms.

14. $9(2 - c) + 2c(3c + 7)$

a. $6c^2 + 5c + 18$

b. degree = 2

c. Quadratic

d. Trinomial

Find the sum or difference of each pair of polynomials.

15. $(4n^3 - 3n^2 + 7) - (6n^3 + 8n - 3)$

$-2n^3 - 3n^2 - 8n + 10$

16. $(e^2 + 6e - 9) + (3e - 4e^2 + 2)$

$-3e^2 + 9e - 7$

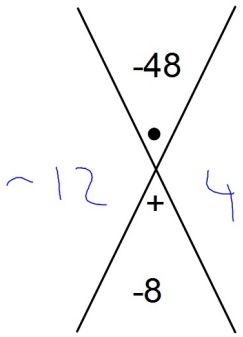
Name each polynomial by both degree and # of terms

1. $4a - 6a^3$ cubic binomial
2. 1443 Constant monomial
3. $6r^2 - 7r + 8$ Quadratic trinomial
4. $\frac{2}{3}x$ Linear monomial
5. $9y^3 + 6y^5 - 11y^3$ 5th degree binomial

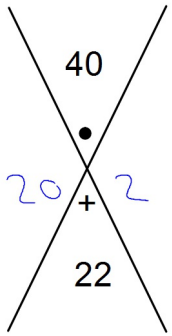
State the degree of each.

1. $7m^4 + 6m - m^5 + 8$ 5
2. $14c(3c^2 - 8)$ → 3
   $42c^3$
3. $3x + 12 - x + 6 - 2x$ 0
4. $8r^3t^2$ 5

Find two numbers that multiply to the # that is at the top and add to the # that is at the bottom.

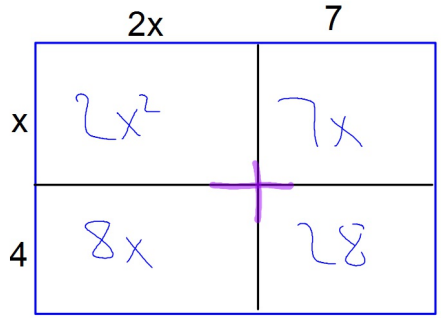


48 · 1
24 · 2
16 · 3
12 · 4 ✓



40 · 1
20 · 2 ✓

Find the area of the blue rectangle.



$2x^2 + 15x + 28$

Expand this: $-6w^4(-4w^3 + 7)$

Distributive Property $-6w^4(-4w^3 + 7) = 24w^7 - 42w^4$

Box Method

$-6w^4$	$-4w^3$	$+7$
	$24w^7$	$-42w^4$

Expanding Jeopardy:

Answer: $36x^2 + 8x$

Question: $4x(9x + 2) =$

GCF of the original two terms

These are what remains after dividing the original two terms by the GCF.