6.10.15

Algebra

Many Terms

Polynomials *Section 6.2* Pg. 305-306 **Adding Polynomials** *Section 6.3* Pg. 307-309	Monomial, Binomial, Trinomial, Degree, Descending Order **Classwork:** p. 305-306: 1-6, 7, 9, 11, 13, 14, 16, 20, 23 **Homework:** p. 305-6: 8, 10, 12, 15, 19, 21, 24 **Classwork:** p. 309: 5, 6, 9, 11, 14, 18, 22, 25, 28 **Homework:** p. 309: 7, 10, 16, 17, 19, 24, 26, 27, 29

Monomial - One Term eg $5x^2$, $3xy^3$, 7

Binomial - Two Terms eg $3x^2 + 5$, $2x+5$, $4xy^3+7$

Trinomial - 3 terms eg $3x^2 + 2x - 5$

Order - The value of the power on the polynomial variable

or Degree

eg $3x^2$ - order is (2), $5x^3y^2$ is order (5) ($3+2$)

all monomials ⟹ $5x$ - order is (1), $-3x^0$ order 0

Order of a Polynomial is the order/degree of the highest ordered term

eg $3x^2 + 2x - 5$ (x^2, x^1, x^0) - order of the trinomial is order 2

Thus trinomial is written in descending order.

Examples - Pg. 305 - 306

Identify as a monomial, binomial, or trinomial.

1. $5xyz$ M **2.** $x+2y$ B **3.** $a-2b+3c$ T

4. x^2+y^2 B **5.** 23 M **6.** $x-y+2$ T

State the degree of each monomial.

7. $25x$ 1 **8.** $25x^2y^2$ **9.** 17 0

10. $2x^2y^3$ **11.** $-5x^3y^4$ **12.** $-6xy^4z$

order 4 order 4

State the degree of each polynomial.

13. $5x^2y^2 + 3xy^3$ — order 4

14. $3x^1 + 2y^1 - 5z^1$ — order 1

15. $x^4 + 2x^3 + 3x^2 + 4$

16. $4x^4y^2 + 2x^3y^5 - 23$ 8!

6 7 0

Arrange the terms in each polynomial in descending powers of x.

20. $1 + x^3 + x^2 + x^5$: $x^5 + x^3 + x^2 + 1$

21. $5 - 3x^3 + 2x$

22. $5y^2 + 2xy - x^2$

23. $25xy^2 - 5x^2y + 3x^3y^3 - 4x^4$: $3x^3y^3 - 4x^4 - 5x^2y + 25xy^2$

3 3 6 4

Adding Polynomials: Pg. 309

⇒ Add coefficients of Like terms

Identify the like terms in each expression.

5. $2x + 3y - 4xy + 5x - 2y + 6xy$
6. $2a + 5a - 6b + 8b - 2c + 3c$
7. $3s^2 + 5s - 2 + 7s^2 + s - 3$

Add.

8. $(3x + 1) + (4x - 2)$
9. $(3x^2 + 5x - 4) + (x^2 - 7x + 2)$
10. $(-y^2 + 7y - 5) + (2y^2 + 7y - 4)$
11. $(2y^3 - 3y^2 - 1) + (-5y^2 - 4y^3 + 3)$

Add.

12. $x + 7$
$+ 5x + 2$

13. $3y^2 + 2y + 8$
$+ 4y^2 + 7y + 11$

14. $5x - 2y + 6$
$+ 3x - 6y + 9$

$8x - 8y + 15$

15. $5x^2 - 3x + 7$
$+ 2x^2 - 5x - 12$

Simplify.

18. $(5z + 6 - 3z^2) + (4 - 7z + 2z^2) = -3z^2 + 2z^2 + 5z - 7z + 6 + 4$
19. $(3x^2 + 2y^2 - 5) + (4x^2 + 3y^2 - 11) = -z^2 - 2z + 10$
20. $(2x^4 + 7x - 5x^2 + 3) + (2x^3 - 7)$

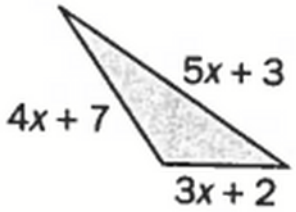
Add.

21. $(5x^2 + 7x - 7) + (4x^2 - 8x + 12)$
22. $(2y^2 - 3y + 2) + (4y^2 + 6y - 1) = 6y^2 + 3y + 1$

Math
-5 000 pays

25. $(4x^2 + 3xy - 2y^2) + (-x^2 - 5xy + 7y^2) = 3x^2 - 2xy + 5y^2$

28. **Measurement** **a)** Write an expression in simplest form for the perimeter of the figure.
b) If $x = 4$ cm, what is the perimeter?



a) $P = 12x + 12$

b) $P = 12(4) + 12$
$= 48 + 12 = 60$ cm.