Kingsborough Community College
2001 Oriental Blvd.
Brooklyn, New York 11235

Lesson # 6

Professor Toro
Subject: Reading/Writing Prompt (156 – 161)

Type of Writng – Persuasive, Expository, Descriptive

Definition – is a form of writing, in which the writer tries to convince the reader to his/her point of view. This type of writing is mostly used in critism, reviews, editorials, etc. it is a form of persuasion to influence readers.

Topics: (Choose one and develop and Essay)

- Family Pets
- Cell Phones Risky
- My Best Friend
- Fundamental Rights
- Attack on elderly people
- The reason behind homelessness
- Is technology turning people into zombies
- An act of kindness
- My favorite movie

You must remember to include:

- Thesis Statement
- Supporting details (evidence – pros and cons)
- Closure – simple conclusion

Subject: Science

Topic: Evolution and Natural Selection (530 – 531)

Background Information

Darwin is known as the “Father of Evolution”

Charles Darwin came fom a wealthy family. His father was a business man and doctor. Charles always liked to work with animals and plants. He pursued his studies and became a naturalist. He later was able to conclude that humans and animals had a common relationship/ancestry.

Darwin's theory of evolution was: Animals of diverse groups evolve from one another.

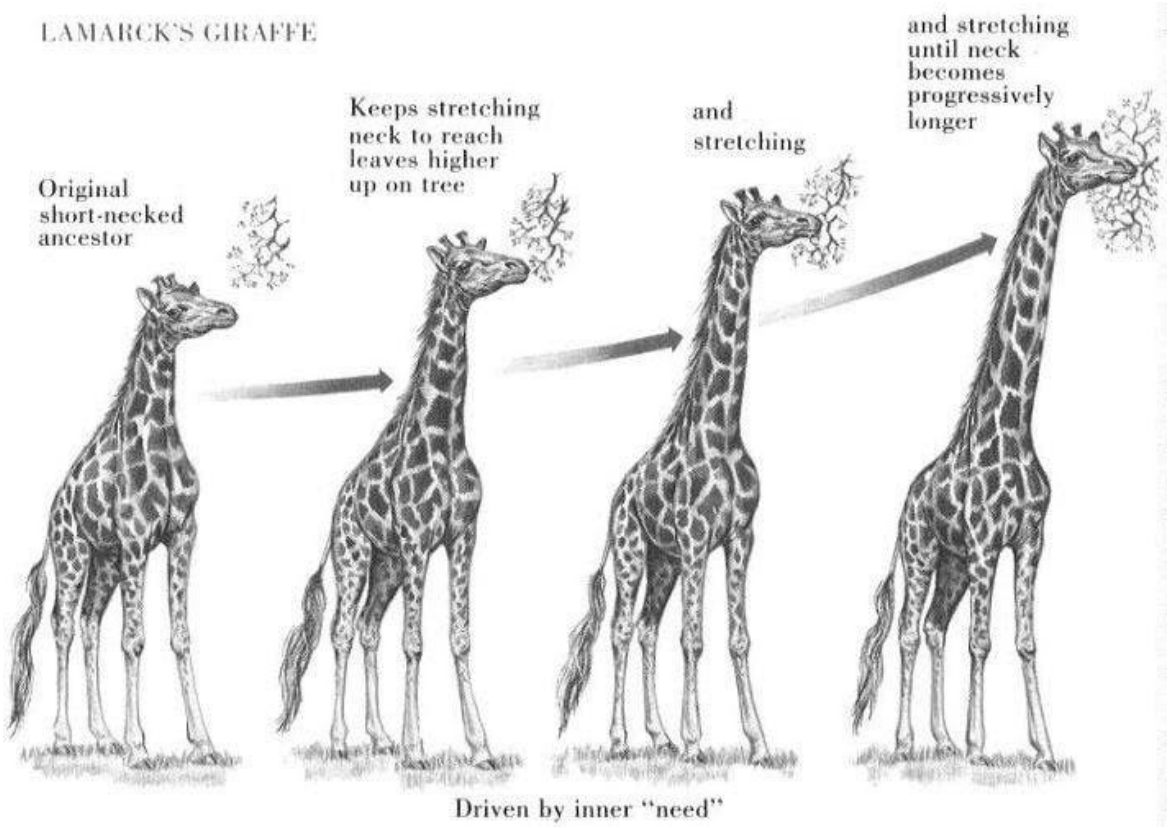
- Natural Selection – Variation - how organisms live, adapt and change

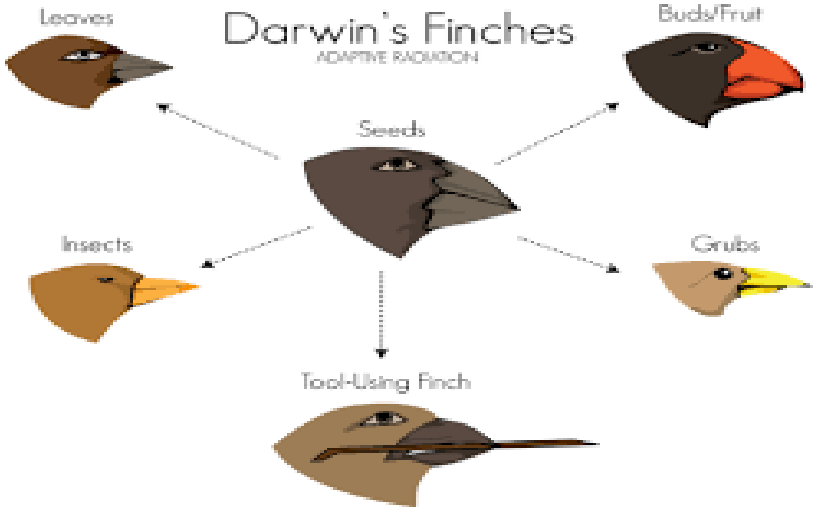
  Example – animals will survive to a certain environment, reproduce and adapt to the surroundings

•Inheritance – traits are passed on from generation to generation

•Population Growth – mixture of the same species the outcome of the offspring varies in: color and size

•Survival/Over-reproduction – Only the strong will survive and continue to reproduce. The weak will die.
•Time – over a period of time/years – there will be an evolution of other new species





Genetic Engineering – Is the choosing of DNA what you would like your offspring to look like and be.

Subject: Mathematics

Topic: Understanding Polynomials (336 - 347)

Definition – Is an algebraic expression that contains:

- variable
- exponent
- coefficient
- constant

Polynomials Polynomials are finite sums of terms where the exponents on the variables are not negative numbers and the terms are separated by + and -		
Monomial (one term)	Binomial (two terms)	Trinomial (three terms)
$5x$	$5x - 1$	$10x^2 - 7x + 5$
$3x^2yz^6$	$10x + y$	$2ab^3 - 6ab^2 - 8ab$
$10xy$	$10x^2 - 5x^3$	$5y^2 - 6y + 3$
$5y^3$	$5x^3 + 2y^2$	$3 + 4x + x$
Non-examples		
$2x - 3$	$3x - 4x$ (two terms can be combined)	$4z^2 + 3z + 6z$ (two terms can be combined)
$4z + 2z$		

- ***coefficient – number before variable***
- ***variable - is the letter***
- ***exponent – is the repeated power or number at the right side top, when the number will be multiplied at that amount of times***
- ***constant is the number that remains the same***

Notes to Remember:

1. When working/computing polynomials, we must follow/remember the following concepts:
   - Group the same type of polynomials together (like and unlike terms)
   - Place from horizontal form to vertical form
   - Work on the addition/subtraction to get final result

Simplifying Polynomials

Definition – Means to reduce/compute polynomials in a shorter format.
Samples:

$$3x^2y + 4x^2y = 7x^2y$$

$$3b + b = 4b \text{ or } 3b + 1b = 4b$$

$$a - 7a + 3 = -6a + 3$$

$$14ab + 2ab^2 + 2ab + 3 = 2ab^2 + 16\,ab + 3$$

Multiplying and Dividing Polynomials

Hints:

- Multiply the power of the same base, add exponents.
- To find the power of a power, multiply the exponents.

Sample

$$5a^2 \,.\, 3a^3 = 15\ a\text{^}5$$

Division

Hints:

- Arrange terms in descending order if possible
- Take each term one at a time and divide
- Use the law of exponents when possible.

Sample

$$\frac{6xy^2 + 9x^2\,y}{3xy}$$

$$\frac{6xy^2}{3xy} + \frac{9x^2y}{3xy}$$

$$2y + 3x$$

Subject: Mathematics (388 - 389)

Topic: Geometry and Shapes

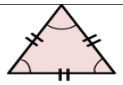
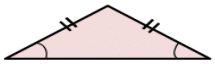
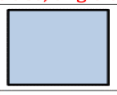
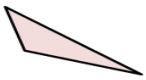
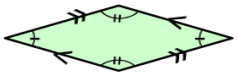
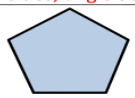
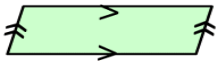
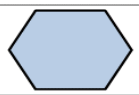
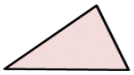
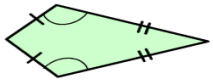
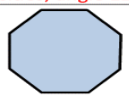
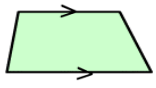
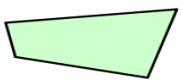
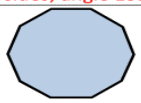
Definition – Geometry is the study of shapes, sizes and dimensions. There are different types of shapes.

- •triangle
- •circle
- •square
- •angles
- •rectangle
- •parallelogram
- •lines
- •etc.

When evaluating geometrics shapes, each figure has a formula.

Name Date

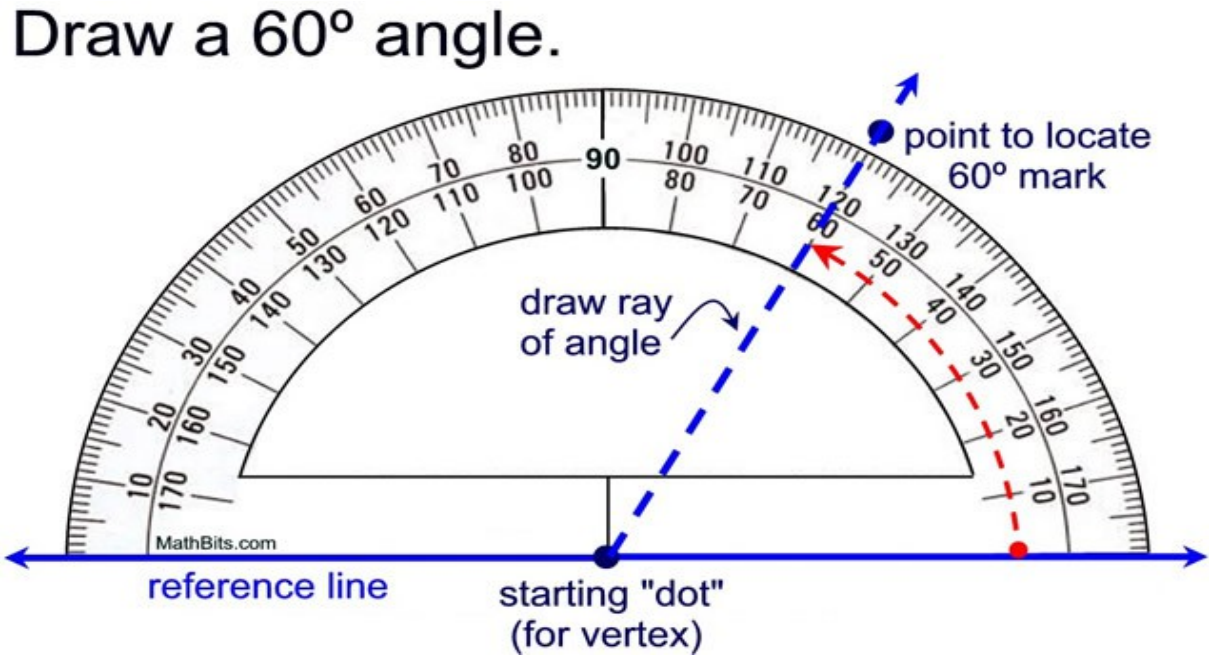
GEOMETRY QUICK GUIDE 2: 2D SHAPES (UK)

TRIANGLES	QUADRILATERALS		REGULAR POLYGONS
			
Equilateral triangle All sides equal; interior angles 60°	**Square** All sides equal; all angles 90°		**Equilateral triangle** 3 sides; angle 60°
			
Isosceles triangle 2 sides equal; 2 congruent angles	**Rectangle** Opposite sides equal, all angles 90°		**Square** 4 sides; angle 90°
			
Scalene triangle No sides or angles equal	**Rhombus** All sides equal; 2 pairs of parallel lines; opposite angles equal		**Regular Pentagon** 5 sides; angle 108°
			
Right triangle 1 right angle	**Parallelogram** Opposite sides equal, 2 pairs of parallel lines		**Regular Hexagon** 6 sides; angle 120°
			
Acute triangle All angles acute	**Kite** Adjacent sides equal; 2 congruent angles		**Regular Octagon** 8 sides; angle 135°
			
Obtuse triangle 1 obtuse angle	**Trapezium** 1 pair of parallel sides	**Trapezoid** No pairs of parallel sides	**Regular Decagon** 10 sides; angle 144°

Geometric Definitions:

- •line – a continued straight figure with two arrows at each end.
- •Line segment – straight figure with two periods at the end
- •angle – two rays joined by a vertex
- •obtuse - angle measures more than 90 degrees
- •acute – angle measures less than 90 degrees
- •concave angle – angle that measure more thaan 180 degrees
- •complementary angle – the sum of two or more angles which totals 90 degrees
- •supplementary angles – the sum of angles, which totals 180 degrees
- •line angle – measures 180 degrees and is flat
- •vertex – point
- •perpendicular – an intersection of two lines or line segment
- •circle/circumference – round curved shape starting at one point and closing in the same curved point
- •triangle – three angles combined together by a vertex
- •similar triangle – three angle connected by a vertex, but smaller measurement/size
- •transversal – line that passes through a line
- •parallel line – two or more lines that do not intersect
- •diameter – line that passes through the center of a circle
- •radius – line that connects in a circle with a point
- •volume – measurement in units of a geometric shape (tridimensional)
- •piramide – is a shape with triangle, square that is connected through a vetex
- •surface – flat plane/base
- •

When measuring triangles, we use a device called a protractor.



Social Studies

Topic: The US Constitution (452 - 455)

Background information – Written document that shapes the rights of citizens. It was signed in the year 1787, at the Convention in Philadelphia, by delegates who worked hard to obtain the freedom and equal rights to all people. Fifty- five people attended the Convention, but only 39 delegates signed the Constitution.

Why is the Constitution of the US important?
The document makes sure that the laws and decisions made are followed, and that none of the three branches have power over the other. They are equal.

The three branches are:

- ***Executive – President, vice-president and cabinet (carries out the laws)***
- ***Legislative – House of Representative and Senate (make laws)***
- ***Judiciary – Court cases and Supreme Court (Evaluates the laws) (judges, jury, etc)***

There are two main parties. The democratic and the republican parties.

• Democratic Party – support social, economic equality, voting rights, civil rights, environmental
programs, workers rights, immigration rights, etc.

• Republican Party – they are associated with conservative policies and keep traditional values, prosperous workers, etc.

The first ten Amendments is known as the Bill of Rights, They are rights that each citizen has and are protected by these rights.

The Bill of Rights

Ratified December 15, 1791

Article I

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

Article II

A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed.

Article III

No Soldier shall, in time of peace be quartered in any house, without the consent of the Owner, nor in time of war, but in a manner to be prescribed by law.

Article IV

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

Article V

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any Criminal Case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

Article VI

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining Witnesses in his favor, and to have the Assistance of Counsel for his defence.

Article VII

In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury shall be otherwise reexamined in any Court of the United States, than according to the rules of the common law.

Article VIII

Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishment inflicted.

Article IX

The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.

Article X

The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.

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Name: _____

Lesson #6 - (Exercise Practice)

Professor Toro

Mathematics

Compute the following equations. (Use class notes, textbook as reference.) (Show the Work)

I. Factoring Quadratic Equations. ($ax^2 + bx + c = 0$)

1) $x^2 - 49 = 0$ 2) $x^2 = 5x + 24$

II. Solving Quadratic Equations Using Square Roots.

1. $3x^2 - 60 = 0$ 2) $(x - 7) = 18$

III. Completing the Square ($ax^2 + bx = c$)

1. $x^2 + 4x = -2$ 2) $x^2 + 2x - 6 = 0$

IV. Quadratic Formula (Use Quadratic Formula to solve.) $x = -\frac{b \pm \sqrt{b^2 - 4ac}}{2a}$

1. $2x^2 + x - 7 = 0$ 2) $5x^2 + 7x + 2 = 0$

V. Graphing Quadratic Equations. Solve the following equation and demonstrate the Symmetry.

Formula: ($y = ax^2 + bx + c$)

1. $y = 4x^2 + 8x - 3$ 2) $y = -2x^2 + 4x + 1$

Writing/Reading

Write either a Persuasive, Expository or Descriptive essay. Choose one of the topics below.

- Family Pets
- Cell Phones Risky or Safe? My Best Friend
- Fundamental Rights
- The reason behind homelessness
- Is technology turning people into zombies
- An act of kindness
- My favorite movie

Remember to follow the steps of writing. Also remember to include your:

- •Thesis Statement
- •Supporting details (Pros – Cons)
- •Closure

Reminder:***Make sure your essay is your original work.***

Science

Answer the following questions in ***essay*** form, based on class discussion and your knowledge of Science.

1.List and Explain Darwin's Theory of Evolution.

2.Compare Lamark's and Darwin's ideas about how evolution takes place.

3.Variation between members of a species plays an important role in Darwin's theory of evolution. What happens to variation in endangered species where the number of individuals is very low?

4.Describe in detail what happens to an endangered species if a variation provides an advantage for the species. What would happen if the variation resulted in a disadvantage?

Social Studies

Answer the following questions in ***essay*** form. ***Make sure it is your original work.***

1.Why do you think the Constitution written more than 200 years ago, is still a workable plan of government today?

2.Explain what steps the framers of the Constitution took to make sure no one branch of government gained too much power?

3.Imagine that you are a member of Virginia's ratifying convention. You are reluctant to ratify the Constitution while it has no Bill of Rights. Give reasons for this stand. What might occur for you to accept the Constitution with the Bill of Rights?

4.You are attending a special meeting to discuss what changes need to be made in the Constitution. List and explain your reasons.