

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

HSE11E – KS11

Lesson # 4

Subject – Reading/Writing (84 – 99)

Topic – Argument/Opinion Essay

Informative/Explanatory Essay

Definition: (Argumentative) Is an essay where the writer presents his/her point of view in favor or against a topic, using information/evidence from the passage.

Prompt Questions to keep in mind.

- What is the writing about?
- How much should I write? (Introduction, Supporting details, Closure) (3 – 4 paragraphs)
- Follow a sequence/writing your essay in order
- Ask yourself, “what types of essay am I writing?” Argument or Informative?
- What should I include in my essay?

Subject: Life Science (522 - 527)

Topics: (Human Body Systems, Health Issues, Reproduction and Heredity , Modern Genetics)

The human body has four main systems:

•**Circulatory** – takes care of cardiovascular system, which consists of the heart, and blood vessels. The arteries carry the blood from the heart and veins and back to the heart. Which makes the blood transport to the vessels (oxygen, nutrients) The heart pumps blood around the body all the time. The right side of the heart receives the blood, while the left side pumps it back to the brain and rest of the body.

•**Respiratory** – consists of nose, throat, lungs. Its main functions to inhale air into the lungs and release the carbon dioxide.

•**Digestive System** – consist of mouth, esophagus, stomach small intestine and large intestine. We ingest food into the mouth, we chew the solid, with saliva and make the pieces smaller. It then goes into the esophagus into the stomach, which later on turns into liquid (enzymes and stomach acids) From the stomach it travels to the small intestine, where nutrients are absorbed into the blood stream (capillaries in the villi) the remainder goes into the large intestine that takes care of removing waste through the rectum.

•**Nervous System** – consists of brain, spinal cord and nerves. Their main function is to take information that triggers reaction, such as coordinating movement and position, which controls

breathing and heart rate. The information is transmitted to the brain through the nerves and the rest of your body.

•***Other Human Systems are:***

- ***Skeletal – bones***
- ***Muscular – muscles***
- ***Endocrine – hormones***
- ***Cardiovascular – heart***
- ***Lymphatic – maintains fluid levels by removing fluids and bring back to the blood***
- ***Urinary – filters blood, removes waste, and excess water (kidney, ureter, bladder and urethra)***
- ***Reproductive – union of egg and sperm to produce an offspring (baby, newborn)***

Health Issues - refers to germs that are surrounded our body and environment that causes diseases. Germs can come in many ways such as :

- Cut – tetanus (injury that can lead to an infection, if not taken care of properly can lead to death)
- Influenza – contaminated food or water
- Sexually transmitted diseases
- Bacteria and Viruses (pathogens) living organisms that live in a host cell and reproduce.

Our body has defenses that fight back against infection. These defenses are part of our immune system that produce antibodies to destroy these type of germs. We must keep our immune system healthy by:

- eating healthy nutritious food
- drink plenty of fluids
- have our immunization shots up to date – visiting a doctor once a year or two (medical checkup)

Nutrition – Are mostly substance that we consume to maintain a healthy body. It is important for our growth, brain function and maintaining cells /balance. Our body needs:

- fats
- carbohydrates
- proteins
- minerals
- water
- vitamins

All these are found in foods. We can consume all this, but in moderation. Too much can cause obesity, heart disease, diabetes, etc.

Drugs – is a chemical substance used to treat, cure or prevent a disease. Drugs, if used correctly it can relieve it symptoms, but when abused can cause severe addiction, such as:

- loss of weight
- dependence of a drug
- nausea
- pain
- etc.

Topic: Pythagorean Theorem, Distance Formula, Midpoint Formula and Permutations, Combination

Pages – (304, 305, 392)

Permutations – Is an arrangement of a set of number from highest number to descending number; in a linear format. Once arranged multiply the numbers.

Symbol for Permutation: $(nPr) = \frac{n!}{(n-r)!} = \frac{10!}{(10-3)!} = \frac{10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1} = 720$

$$(nPr) = \frac{7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{7} = 5040/7 = 720$$

Examples: $6! = 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 720$
 $3! = 3 \times 2 \times 1 = 6$

Combination – combination of a set of numbers in which the order does not matter.

Symbol - $C(n,r) = \frac{n!}{r!(n-r)!}$

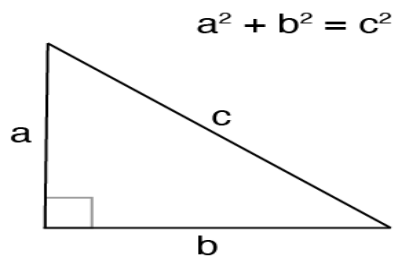
Example: A director chooses 3 actors to play the part of Juliet, from five on the list.

$$C(5, 3) = \frac{5 \times 4 \times 3}{3 \times 2 \times 1} = 10$$
$$60/6 = 10$$

The Pythagorean Theorem - Named by a Greek mathematician of the 6th century.

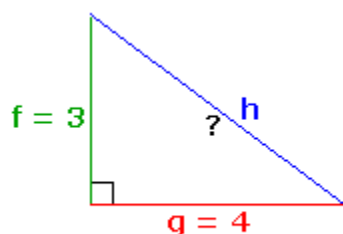
Definition – states that any right angle is the square of the length hypotenuse, which is the sum of the squares of the length on the other 2 sides.

Formula:

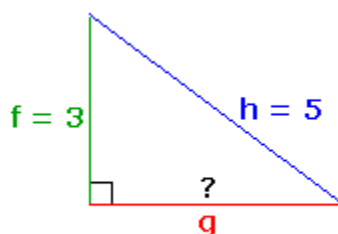


Rules:

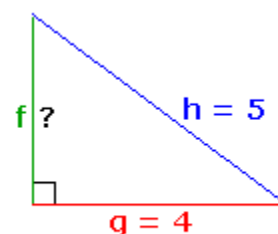
- Draw the diagram
- Write the formula
- Substitute the value into the formula
- Compute/ solve to find the missing side



$$\begin{aligned}
 h^2 &= f^2 + g^2 \\
 h^2 &= (3)^2 + (4)^2 \\
 h^2 &= 9 + 16 \\
 h^2 &= 25 \\
 h &= 5
 \end{aligned}$$

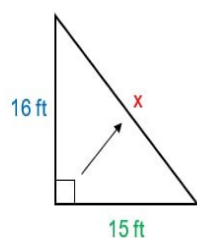


$$\begin{aligned}
 h^2 &= f^2 + g^2 \\
 g^2 &= h^2 - f^2 \\
 g^2 &= (5)^2 - (3)^2 \\
 g^2 &= 25 - 9 \\
 g^2 &= 16 \\
 g &= 4
 \end{aligned}$$



$$\begin{aligned}
 h^2 &= f^2 + g^2 \\
 f^2 &= h^2 - g^2 \\
 f^2 &= (5)^2 - (4)^2 \\
 f^2 &= 25 - 16 \\
 f^2 &= 9 \\
 f &= 3
 \end{aligned}$$

① Solve for the missing side of the triangle (Solve for x):



Step 1: Determine if the missing side of the triangle is the hypotenuse or a leg. In this case, I notice that the unknown, x, is across from the right angle. This tells me that the unknown is the hypotenuse.

Step 2: Plug into the Pythagorean Theorem!

$$\begin{aligned}
 a^2 + b^2 &= c^2 \\
 (16\text{ft})^2 + (15\text{ft})^2 &= x^2
 \end{aligned}$$

Step 3: Square "a" and "b". In other words, what is 16ft · 16ft and 15ft · 15ft?

$$256\text{ft}^2 + 225\text{ft}^2 = x^2$$

Step 4: Combine!

$$\begin{array}{c}
 \text{Add!} \\
 \swarrow \quad \searrow \\
 481\text{ft}^2 = x^2
 \end{array}$$

Step 5: Square root both sides of the equation!

$$\begin{aligned}
 \sqrt{481\text{ft}^2} &= \sqrt{x^2} \\
 21.9317... \text{ ft} &= x
 \end{aligned}$$

Step 6: Round your answer to the nearest tenths!

$$x \approx 21.9 \text{ ft}$$

Remember that it doesn't matter if I mix around "a" and "b". I could have also written...

$$(15\text{ft})^2 + (16\text{ft})^2 = x^2$$

You will get the same answer regardless if you switched "a" and "b".

Note – If you are asked to leave answer in "radical form" then your answer would be $x = \sqrt{481}\text{ft}$

The Distance Formula

Distance Formula

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Mrs. E Teaches Math

Definition – is finding the distance between two points on a coordinate plane. When using the formula, we are also using the Pythagorean theorem.

Example:

Distance Formula

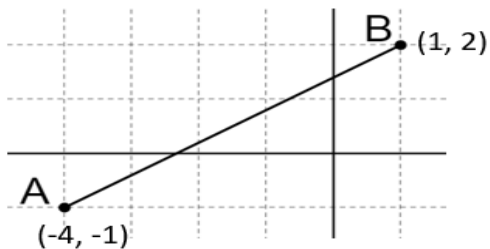
The distance between two points (x_1, y_1) and (x_2, y_2) is given by the formula

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Example:

Find the distance between the two points A $(-4, -1)$ and B $(1, 2)$

$$\begin{aligned} d &= \sqrt{(1 - (-4))^2 + (2 - (-1))^2} \\ &= \sqrt{(1 + 4)^2 + (2 + 1)^2} \\ &= \sqrt{5^2 + 3^2} \\ &= \sqrt{25 + 9} \\ &= \sqrt{34} \\ &= 5.83 \end{aligned}$$



Rules:

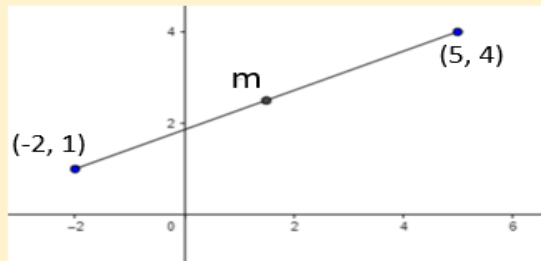
- Draw the coordinate plane/sketch
- Mark each point (P1 and P2)
- Substitute the coordinate values into the formula and solve
- Simplify answer

Midpoint Formula

Definition – is finding the coordinates of a point that is located between the half of any two points of a coordinate plane.

Midpoint Formula

$$\text{Midpoint} = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$



$$\begin{aligned} m &= \left(\frac{-2 + 5}{2}, \frac{1 + 4}{2} \right) \\ &= \left(\frac{3}{2}, \frac{5}{2} \right) \\ &= (1.5, 2.5) \end{aligned}$$

Rules:

- Draw the sketch and plot the points on the coordinate plane.
- Label each point as (Point 1 and Point 2)
- Write the formula and substitute the values of each point into the formula and solve

Social Studies: United States as an Emerging World Power (444 – 445)

Background Summary

The Civil war ended and the Industrial Revolution began. It was of time of great Prosperity and growth for United States. Industrialist and government leaders wanted more. They wanted to expand by selling their goods overseas.

Definitions:

- imperialism – extending rule/control over country and people, especially military force
- nationalism – holding high standards to own country
- communist – political theory from Karl Marx advocating war to a society, that all property should be public owned and profits shared equally.

This is known as Imperialism. (the making of a stronger nation in the following aspects:

- military – US has approx. 800 military bases (37% military expenses)
- economics – more money
- political control – take over weaker nations

In order to achieve this:

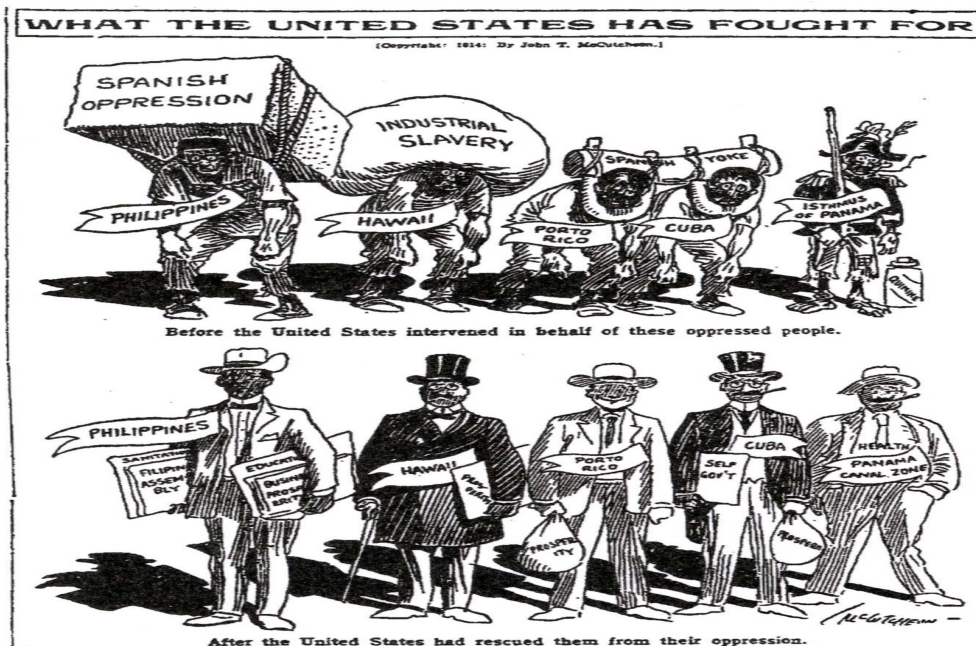
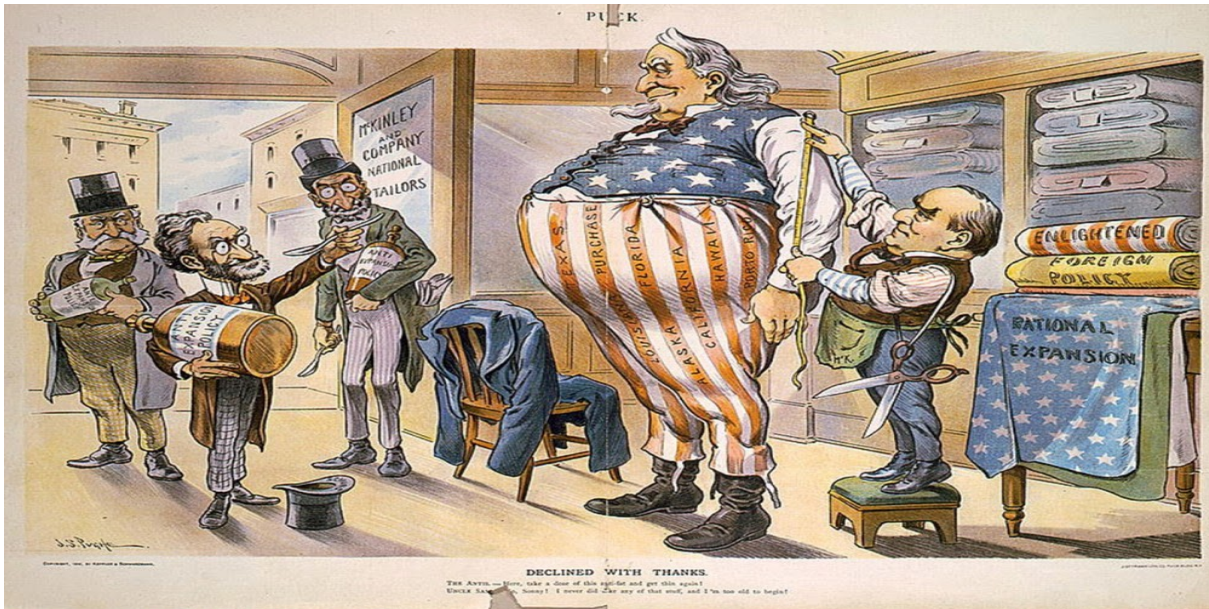
- Expulsion of American Indians over their land
- Slaughter of American Indians
- Purchase of Alaska from Russia
- President McKinley - pushed war with Spain due to treatment with Cuba, which led US to have the Spanish colonies (Guam, Puerto Rico, Philippines)

This led to the WWI (Allies and Central Power)

Allies - (Great Britain, Russia, France) – aka – Triple Entente (Nucleus allied powers (1894, 1907)
Central Power (Germany, Russia, Ottoman Empire)

United States fell into a Great Depression:

- Stock Market crash
 - Drought
 - Bank fall out
-
- Note – will continue the discussion next week



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TASC in English

Professor Toro

Assignment (***MAKE SURE IT IS YOUR ORIGINAL WORK***)

Subject: Reading/Writing

Choose one of the topics discussed in class and develop an essay. (Argumentative – Informative)
Remember to follow the steps discussed in class. Submit the published work only.

- Stopping Gun Violence
- Road Rage
- Is there justice for all countries
- Does Social Media do more harm than good?
- Video Games
- Is life more challenging for your generation or your parents?

Subject: Science (Essay format)

1. Explain how the link of oxygen can lead to the dentition of an organism.
2. How does your body respond to exercise, part heart, temperature, breathing rate and fatigue?
3. Choose one of the body organs and discuss how it works.
4. Explain in essay form, how can we prevent certain health issues that people suffer today.

Subject: Social Studies

1. Explain the main reasons the US began to implement the practice of Imperialism. Give examples.
2. Choose one of the caricatures. Write in essay form, explaining, what does the picture represent.