

Lesson 1

Language Arts

1. C, We can understand that the main purpose of the passage is to identify the problem of food desserts and to discuss a few potential solutions.
2. D, Based on this information we can infer that if supermarkets opened more locations in low-income areas, then the health of the residents would be more likely to improve because they would have easier access to healthy food.
3. A, A study proving that living farther away from a supermarket is linked to a having a higher body mass index would provide supporting evidence for this idea.
4. E, Based on context, we can infer that affluent neighborhoods are not low-income neighborhoods. From this we can infer that a good synonym for affluent is wealthy.
5. A, The author considers major supermarkets to be more interested in making profits than in helping people. This information supports option I.
6. B, Commendable means something positive or praiseworthy.

Social Studies

1. Correct answer is 2. Look for smallest # under the Export column and the year it occurred.
2. Correct answer is 3. Trade balance refers to goods or products. It is reported in dollars.
3. Correct answer is 1. If your negative balance is increasing, this means #1. We continue to buy more from China. We rely on China to produce the goods we want, rather than producing them ourselves.

Writing

Examine prompt for a solid paragraph. Observe grammar, logical reasoning, using text to support the student's argument, proper usage of punctuation.

Math

1. 133 books. (Add all the numbers)
2. 15 pounds (Subtract the smaller number from the larger.)
3. \$20,400.00($\$1700 \times 12 \text{ months} = \$20,400$)
4. 6 shelves ($12 / 2 = 6$)
5. 2 (Subtract the first mileage reading from the last reading. $53,871 - 52,943 = 928$ mi.)
6. \$2072 (There are 36 months in 3 years. Multiply her monthly payment of 52 by 36 months. $53 \times 36 = 1872$. Then add in the \$200 down payment. $\$1872 + 200 = 2072$. Total cost.)
7. 5 (First write down the number from which you subtract other numbers; ex: \$20. Next, add tax to book cost. Then subtract. $\$20 - (6.95 = .42)$)
8. \$12.63 \$12.63. $\$20.00 - \$7.37 = \$12.63$

Lesson 2 Language Arts

Assignment 1: Author's Purpose

1. C, In paragraph 2, the author writes, "Authors write many kinds of stories to entertain, including humorous fiction, realistic fiction, fantasy, fairy tales, and fables." We can tell that a passage titled *The Adventures of Waldo Wizard* is a fantasy story, fable, or a fairy tale. The word adventure lets us know this is a story, and since wizards are not real, we can tell that this story could be classified as a fantasy, fairy tale or fable. Since the author writes that these types of stories entertain, we can tell that *The Adventures of Waldo Wizard* is most likely the title of a passage in which the author's main purpose is to entertain.

2. A, To answer this detail question correctly, we need to find where the author discusses writing to inform in the passage. A good way to do this is to scan the topic sentence of each paragraph, since this sentence will likely tell us what information can be found in the rest of that paragraph. The topic sentence of paragraph 3 reads: "Many non-fiction writings or texts are written with the purpose of giving information about an interesting topic." This lets us know that the details we are looking for can likely be found in paragraph 3. In paragraph 3, the author writes, "All of these types of writing give information about certain topics." Since the "types of writing" the author is referring to here are meant to inform, we can tell that authors who write to inform want to provide information about a certain topic.

3. D, At the end of paragraph 1, the author writes, "Whatever the circumstances, authors have reasons for writing; this is called, the 'author's purpose.' The three most common types of author's purpose are: to entertain, to inform, and to persuade." This lets us know that the author will explain the concept of "author's purpose" in this passage. In the next three paragraphs, the author informs us about each of the three types of author's purpose mentioned in the quotation above. In paragraph 3, the author writes, "Many non-fiction writings or texts are written with the purpose of giving

information [or to inform the reader] about an interesting topic.” Since the author informs us about “author’s purpose” in this passage, we can tell that the author’s purpose in writing this passage is to inform, so **(D)** is correct.

4. B, convey (*verb*): to make an idea, impression, or feeling known or understandable to someone. In paragraph 3, the author writes, “Authors who write to inform must research their subject to ensure that they convey accurate information to the reader.” We can use context clues—hints from known words or phrases around the unknown word or phrase—to help us figure out what convey most nearly means. If authors who write to inform must research their subject so that they convey accurate information to the reader, we can tell that convey must mean something like to pass on, or make something known, because authors write so that readers get the story or information they are writing about. Using this information, we can tell that we are looking for the word group that contains words that mean something like to make an idea, information, or story known to someone else. *Communicate*, *pass on*, and *relay* all mean to make an idea, information, or story known to someone else. This lets us know that convey belongs to the word group containing these words, and **(B)** is correct.

5. C, In paragraph 4, the author writes, “Oftentimes, texts that are meant to persuade use specific techniques...These techniques might be found in letters to the editor, argumentative essays, or persuasive speeches.” Since the techniques used in letters to the editor are meant to persuade, we can understand that if Bill likes to read the “Letters to the Editor” section of his local newspaper, this means he likes to read passages that authors write in order to persuade. Therefore **(C)** is correct

6. C, To answer this detail question correctly, we need to find where the author discusses writing to persuade in the passage. A good way to do this is to scan the topic sentence of each paragraph, since this sentence will likely tell us what information can be found in the rest of that paragraph. The topic sentence of paragraph 4 reads: “Sometimes authors write because they want to convince their readers about something.” Since we know that convincing and persuading are similar, this lets us

know that the details we are looking for can likely be found in paragraph 4. In paragraph 4, the author writes, " Oftentimes, texts that are meant to persuade use specific techniques to make the reader care about the subject, and to think about it in a certain way." This lets us know that texts that are meant to persuade often use specific techniques to make the reader care about the subject.

Assignment 2: Avalanche!

1. C, To determine the main purpose of a passage, it is helpful to examine the content of the entire passage. In paragraph 1, the author tells us "there are many different kinds of avalanches... Avalanches are categorized based on whether the snow is wet or dry, and whether or not it is compacted. The four most common types are: dry snow, wet snow, wet slab, and dry slab." Each of the next four paragraphs is devoted to explaining one of these four types. Paragraph 6 concludes the passage by highlighting the importance of knowing how and why the different types form. Based on its content, we can determine that the main purpose of the passage is to describe the four basic types of avalanches.

2. C, To determine the author's intentions in writing the statement in question, it helps to examine the surrounding context. In the sentence before the statement in question, the author writes, "Despite the fact that they can reach speeds of up to 225 miles per hour, these avalanches tend to be small, and their snow is loose, not compacted, so they are less dangerous." Here the author tells us that simply because dry snow avalanche travels at high speeds, this does not mean that it is more dangerous. However, the author wishes to not give the wrong impression; the dry snow avalanche can still cause harm. Using this information, we can understand that the author writes the statement in question in order to qualify, or refine, an earlier statement.

3. A, saturate (verb): to cause something to become thoroughly soaked; to drench or wet through. In paragraph 3, the author writes, "The increased springtime rainfall

saturates the snow with water, weakening the cohesive layers beneath the surface.” Because the rainfall is “increased,” we can infer that there is more of it. The more rain there is, the more the water mixes with the snow, even “beneath the surface.” This tells us that when the rainfall *saturates* the snow with water, the water goes all the way through, or *soaks*, the snow.

4. A, In paragraph 3, the author describes the conditions that cause wet snow avalanches to occur in the spring: “Wet snow avalanches generally occur during the springtime when temperatures are consistently above freezing and there is an abundance of both sunshine and rainfall. The warmer temperatures and the sun melt the outer layers of snow. The increased springtime rainfall saturates the snow with water, weakening the cohesive layers beneath the surface. The combination of these factors results in unstable conditions.” From this information, we can understand that the sunshine causes the snow to melt, and the increased rainfall weakens the existing snow. In paragraph 4, the author reinforces this idea by writing, “Like a wet snow avalanche, a wet slab avalanche most often occurs during the spring, due to melting snow and increased rainfall.” This means that melting snow and increased rainfall are the main causes of wet snow and wet slab avalanches.

5. B, Ideal (*adjective*): regarded as perfect or excellent. In paragraph 4, the author describes how a wet slab avalanche forms: “Daytime melting and nighttime refreezing of the ice and snow create ideal conditions for a wet slab avalanche.” Since the author is describing the conditions that make a wet slab avalanche most likely to happen, we can understand that the melting and “refreezing of the ice and snow” create very good, or even perfect, conditions for this type of avalanche. Using this information we can understand that *ideal* must mean perfect or excellent. Since the opposite of perfect is *flawed*, **(B)** is correct.

6. B, In paragraph 2, the author writes that even a dry snow avalanche, the “least dangerous” kind, “can cause harm under the right conditions.” In paragraph 4, the author claims that a wet slab avalanche travels at “no more than 10 miles per hour. But

because the snow is compacted, not loose, a wet slab avalanche is still quite dangerous even at this slow speed.” In paragraph 5, the author tells us that dry slab avalanches travel “at speeds of 60-80 miles per hour” and are “the most dangerous of all.” From this information, we can **infer** that whether avalanches are fast or slow, they can all be very dangerous.

7. A, In paragraph 2, we learn that a dry snow avalanche consists of “powdery snow.” In paragraph 3, we learn that a wet snow avalanche consists of “loose, partially melted snow and water.” In contrast, we learn in paragraph 4 that a wet slab avalanche contains snow that “is compacted.” Likewise, in paragraph 5, we learn that a dry slab avalanche is caused when “newly fallen snow...cause[s] the compacted layer underneath to break away.” This tells us that both wet slab avalanches and dry slab avalanches contain compacted snow, unlike the other two types, which contain “loose” or “powdery” snow.

8. A, In paragraph 2 the author discusses the dry snow avalanche. He or she writes, “Despite the fact that they can reach speeds of up to 225 miles per hour, these avalanches tend to be small, and their snow is loose, not compacted.” Since the dry snow avalanche is capable of reaching the highest speed, choice **(A)** is correct.

9. D, In the final paragraph, the author provides statistics in order to impress upon us how dangerous avalanches can be. The reason in doing this is to show how we might help to prevent avalanche related accidents. The author states, “The first step in preventing avalanche related fatalities is to be better informed about the various types of avalanches and the conditions under which they occur.” By educating ourselves about the various types of avalanches and the conditions under which they occur, we can be better suited to help prevent them.

10. Essays will vary-Compare and Contrast

Assignment 3: Parts of Speech-Verbs

1. ran

2. sit
3. barked
4. is
5. looks
6. seem
7. sneezed: action
8. are: linking
9. appears: linking
10. appeared: action
11. are going
12. have been resting
13. must be
14. will be finished
15. has
16. do
17. was
18. are being

Assignment 4: Verb Tense

1. called- yesterday
2. waits – every
3. moved – 2 years ago
4. enjoy – always
5. will work – next week
6. happened- last
7. demand – today
8. will end – next
9. owns – now

10. talked - yesterday

Lesson 2 Math

1. $3 + 2 \times 8 - 4 \times 2$

$3 + 16 - 4 \times 2$

$3 + 16 - 8$

$19 - 8$

11

2. $(3 \bullet 4)^2 \bullet 2 - 5(9-7)^2 + 1$

$(12)^2 \bullet 2 - 5(2)^2 + 1$

$144 \bullet 2 - 5(4) + 1$

$288 - 20 + 1$

$268 + 1$

269

3. $105 \times 4 + (9-6) - 33$

$420 + (3) - 27$

$423 - 27$

396

4. $[(2 \bullet 3) + 4]2 - 5$

$[6 + 4]^2 - 5$

$10^2 - 5$

$100 - 5$

95

5. $12 \div 4 + 3 \bullet 6$

$12 \div 4 + 18$

$3 + 18$

21

6. $(2 + 13) \div 5 - 2$

$15 \div 5 - 2$

$3 - 2$

1

Fill in the Blanks

1. Order of operations, "5 more than 3 times 4"

2. Parentheses, Exponents, Multiplication, Division, Addition, Subtraction

3. left to right

4. Any two: bracket, fraction bar, parentheses, radical signs

(Look at Vocabulary to Know)

5. $(35 - 15) \div 2$

$20 \div 2$

10

6. D

$$(3 \bullet 5.25) + (2 \bullet 2.00) + (1 \bullet 2.25)$$

$$15.75 + 4.00 + 2.25$$

\$22

Assignment 2.A

$$\begin{array}{r} 1. \quad 563.00 \\ - \quad \underline{8.03} \\ \hline 571.03 \end{array}$$

$$\begin{array}{r} 2. \quad 29.00 \\ - \quad \underline{0.25} \\ \hline 28.75 \end{array}$$

$$\begin{array}{r} 3. \quad 7.500 \\ - \quad \underline{1.004} \\ \hline 6.496 \end{array}$$

$$\begin{array}{r} 4. \quad 0.230 \\ + \quad 1.006 \\ \hline \underline{80.000} \\ 81.236 \end{array}$$

Assignment 2.B

1. >

2. <

3. >

4. =

Assignment 3: Multiplication and Decimals

1. 17.3
 x 5.92
 102.416

2. 42.556
 x 6.293
 267.804908

3. 3.89
 x 1.4
 5.446

4. 3.18
 x 92
 292.56

Assignment 4: Division and Decimals

1. $72 \div 8 = 0.09$
2. $42 \div .7 = 60$
3. $1.44 \div 0.3 = 4.8$
4. $57.5 \div 2.5 = 23$
5. $1.6/48 = 0.03333$
6. $1.6/1.44 = 1.1111$
7. $0.9/5.4 = 0.1666$
8. $6 \div 4.80 = 1.25$

Assignment 5: Booklet Review

1. D
2. B
3. C
4. C
5. -3
6.
 - f. $18.9 - 6.3 = 12.6$
 - b. $18.9 \div 6.3 = 3$
 - a. $18.9 \times 6.3 = 119.07$
 - c. $18.9 + 6.3 = 25.2$
7.
 - b. $5.44/8 = 0.68$, to find the average of a set of numbers or data, you add the numbers to find their total and then divide the total by how many numbers were in the set. In this case, you were given the total; therefore, you just need to divide the total by 8

Lesson 3

Assignment 1: Changes in Biodiversity

1. C
2. A
3. C
4. B
5. B
6. D
7. A

8. Suggested answer: Many people got sick from eating crops sprayed with pesticides.

9. Suggested answer: Describe the sequence of events described in the paragraph beginning “Now think for a moment...” A pod of whales being unable to go to their usual feeding area results in them going to a new feeding area. They eat all the salmon in that area. The humans living in that area, who usually eat the salmon, must then find a new food source.

10. Suggested answer: Based on information in the passage, you should respond that the chemical would be likely to affect other living things in that environment. You may cite the example of the chemicals farmers used to get rid of insects that ended up making humans sick. You may point out that the interconnectedness of an ecosystem means that a change to one part of it affects other parts, citing the example of the whale pod that changes its feeding area. You may make other arguments as well, if you support your claims with evidence from the passage.

Assignment 2: Reading Charts

1. A, Note the **rows** of energy types and the **column** "Risks/Health Issues"; Read the chart across. The chart indicates Nuclear energy is the greatest risk.
2. C, Note the **rows** of energy types and the **column** "Benefits"; Read the chart across. The chart indicates Fuel Cell reduces emissions.
3. C, Note the **pie chart** sources of energy. Page 3 vocabulary defines fossil fuels. Add the fossil fuel percentages to note they make up $\frac{3}{4}$ of the pie chart.
4. B, Page 3 vocabulary defines non renewable.

Assignment 3: Is the Earth Getting Warmer?

1. A
2. C
3. B
4. D
5. A
6. A
7. D

8. Suggested answer: Carbon dioxide traps heat which can cause the Earth's temperature to rise if large quantities of carbon dioxide are released in the Earth's atmosphere.
9. Suggested answer: A feedback loop is a process that helps to amplify or diminish certain changes within the process.
10. Suggested answer: Answers may vary and should be supported by the passage. Students should indicate that heat produces more heat in positive feedback loop systems. Students may also illustrate this phenomenon using one of the examples from the passage. For example, they may mention the example of melting permafrost. Some of the gases that contribute to global warming are trapped in permafrost. When permafrost melts, many of these gases are released into the atmosphere. This leads to an increase of the atmosphere's temperature, which causes more permafrost to melt. As more permafrost melts, the atmosphere's temperature increases. Thus, heat can produce more heat.

Assignment 4: Simple Subjects and Verbs

1. Alice ; enjoys
2. park ; was
3. dog ; won
4. rights ; will be
5. riders ; learn
6. bees ; collect

Explanation for the correct answers

1. *Alice enjoys an afternoon coffee break.*

Subject – Alice – A person that the sentence is about.

Verb – enjoys – what Alice is doing

2. *Even though the weather was cold and windy, the theme park was open.*

Subject – park – a place that the sentence is about

Verb – open – what the place is doing

Introductory phrase – “Even though the weather was cold and windy,”

3. *The dog in the last cage won the blue ribbon.*

Subject – dog – sentence is about the dog

Verb – won – tells what the dog did

“in the last cage” is a detail about the dog

4. *Human rights will be the topic of the conference.*

Subject – *human rights* – thing that the sentence is about

Verb – *will be* – state of being verb

5. *Bus riders, most of whom do not own a car, learn to wait patiently.*

Subject – *riders* – people the sentence is about

Verb – *learn* – what the riders do

“most of whom do not own a car.” Describes the riders

6. *Honey bees diligently collect pollen for making honey.*

Subject – *bees* – what the sentence is about

Verb – *collect* – what the bees are doing

“diligently” describes how the bees collect the pollen

7. *Honesty, reliability, and punctuality are important to most employers.*

Subject – *Honesty, reliability, punctuality* - Character traits

Verb – *are* – state of being verb

These are always verbs: *Am, is, are, was, were, have, has, had, be, been*

They are called “state of being verbs”

Assignment 5: Verbs

1. takes
2. make
3. want

4. goes
5. sell
6. plan
7. doesn't

Explanations for correct verb answers:

Singular Subject takes a verb with an "s" or "es"

Plural Subject uses a verb without an "s" or "es"

1. Ellen take/takes her toys to her room.	Ellen-singular subject
2. The librarians make/makes finding a book easy.	Librarians-plural subject
3. Carol, Bob, and Deanna want/wants to go to lunch together. Carol, Bob, and Deanna –plural subject	
4. The Boy Scout troop go/goes camping in May.	Troop – singular subject
5. The Girl Scouts sell/sells cookies to raise funds.	Scouts – plural subject
6. I plan/plans to come to your party. "I" is an exception-never uses a verb with "s" or "es"	
7. William don't/doesn't want any more ice cream.	William-singular subject

Assignment 6: Vocabulary

1) D

The main clue in this question is the phrase "following every degrading command without hesitation or question." This phrase explains or elaborates on the meaning of the missing word, so the missing word must refer to following every command without question. **Servile** means having an excessive willingness to serve others, so choice **(D)** is correct.

(A) is incorrect because *humble* means modest or deferential. Although this may describe the henchman, it is not strong enough to work in context. It does not refer to the fact that the henchman’s work was “degrading” or that he did it “without hesitation or question.”

(B) is incorrect because *freethinking* means independently forming opinions or beliefs. This does not describe someone who follows “degrading” commands “without hesitation or question.”

(C) is incorrect because *uppity* means arrogant or self-asserting. This does not describe someone who follows “degrading” commands “without hesitation or question.”

(E) is incorrect because *modest* means humble or not proud. Although this may describe the henchman, it is not strong enough to work in context. It does not refer to the fact that the henchman’s work was “degrading” or that he did it “without hesitation or question.”

2) A

The main clue in this question is the word “so,” which links parts of a sentence joined by a cause-and-effect relationship. This means there is a logical relationship between the fact that “one must be sworn into office” and what must happen before the elected candidate can “become president.” This means that the missing word must likewise mean sworn in. Because *inaugurated* means admitted formally to public office, choice (A) is correct.

(B) is incorrect because *baptized* means admitted to a specific church through a water-based rite or ceremony. Nothing in this prompt suggests any religion or religious rite.

(C) is incorrect because *discharged* means relieved of or released from duty. The prompt implies that the candidate will assume his duties in January, not that he will be released from them.

(D) is incorrect because *established* means instituted or set up. Although the winning candidate will be established as president in January, this is not the strongest choice, since established is too broad in meaning and does not specifically refer to a formal swearing in.

(E) is incorrect because *annulled* means eliminated or voided. The prompt implies that the candidate will assume his duties in January, not that his election victory will be voided.

3) C

The main clues in this question are “knee injury” and “long-distance runner.” If a long-distance runner were to have a knee injury, her career would likely end, since one cannot have bad knees and be a successful runner. The missing word should imply that the knee injury damaged her career, and because *precludes* means makes impossible or prevents from happening, choice (C) is correct.

(A) is incorrect because *forbids* means refuses to allow or bans. Coleen’s injury cannot literally forbid her to run. Only people can forbid one another from doing things, because forbidding involves issuing a command or demand.

(B) is incorrect because *facilitates* means makes possible or makes easy. Coleen’s injury will not make it easier for her to run. Rather, it will prevent her from running, so this is the opposite of a correct choice.

(D) is incorrect because *nurtures* means cares for or fosters. Coleen’s injury will not make it easier for her to run. Rather, it will prevent her from running, so this is the opposite of a correct choice.

(E) is incorrect because *eschews* means avoids or abstains. Coleen may have to abstain from running as a result of her injury, but her injury cannot eschew anything itself.

4) E

The main clue in this question is the semicolon, which is used to link independent clauses that are logically linked. This means that there is a relationship between what the “professor failed to do” and the fact that “poor communication skills resulted in confusion and misunderstanding.” The convoluted language must have caused the students to misunderstand the professor’s points, so her language must have failed to explain her ideas. Because *convey* means to make an idea known to someone, choice (E) is correct.

(A) is incorrect because *bequeath* means to leave as an inheritance. Nothing in the prompt implies that the professor is dying and leaving “her ideas” as an inheritance to others. (B) is incorrect because *contract* means to bring upon oneself or incur. The

prompt does not state that the professor is trying to take in the ideas of others. Rather, she is trying to make her students understand her ideas.

(C) is incorrect because *commit* means to obligate or promise. Nothing in the prompt implies that the professor is giving “her ideas” as a kind of promise to her students.

(D) is incorrect because *yield* means to give up or surrender. Nothing in the prompt implies that the professor is giving up “her ideas” entirely and leaving nothing for herself. Rather, she will retain her own ideas even after sharing them with others.

5) B

The main clue in this question is the word “and,” which links parts of a sentence that state similar information. This means that the type of “reader” Leila is relates to the fact that she “has read more than eighty books this year.” Eighty books is a lot of books, so the missing word must imply that she is a person who is very interested in books. Because ***avid*** means having or showing a keen interest for something, choice **(B)** is correct.

(A) is incorrect because *careful* means done with thought and attention. The prompt only implies that Leila reads a lot, not that she reads with close attention.

(C) is incorrect because *casual* means relaxed. The prompt only implies that Leila reads a lot, not that she reads in a relaxed manner.

(D) is incorrect because *reluctant* means hesitant. A hesitant reader would not be likely to read “more than eighty books this year.”

(E) is incorrect because *occasional* means infrequent and irregular. An occasional reader would not read that many books, but the prompt states that Leila “has read more than eighty books this year.”

6) A

The main clue in this question is the word “so,” which implies a cause-and-effect relationship between the parts of the sentence. Here, the delivery of the message is a certain way, so one needs to “be absolutely certain” that the message gets delivered. If one absolutely has to get the message to the general, the message must be very important. Because ***imperative*** means of vital importance, choice **(A)** is correct.

(B) is incorrect because *optional* means available to be chosen but not required. This does not work because being optional is not the same as being important.

(C) is incorrect because *intentional* means done on purpose. This does not work because being intentional is not the same as being important.

(D) is incorrect because *adequate* means sufficient. This does not work because being sufficient is not the same as being important.

(E) is incorrect because *abnormal* means unusual. This does not work because being unusual is not the same as being important.

Assignment 7: Fact and Opinion

1. **Fact**
2. Opinion
3. Opinion
4. **Fact**
5. Opinion
6. Opinion

Lesson 3 Math

Assignment 1: Integers

1. 29
2. 4
3. -10
4. -7
5. 1
6. 21
7. 13
8. -255
9. 153

10. 180
11. -16
12. 29
13. 4
14. 7
15. -2
16. -4
17. 16
18. -25
19. 14
20. 22
21. $5280 - (-10) = 5280 + (+10) = 5290$ (“above” means positive; “below” means negative. Finding the difference between numbers means “subtract”.)
22. C
23. C and D
24. B
25. $0 - 2 - 2 + 4 + 2 = +2$ which is 2 points above par
26. $973 - (-79) = 1052$ feet.
27. $-12 + -8 + -3 + 6 + -15 = -32 \div 5 = -6.4$
28. Hightop roofing lost \$4,991 between the months of June and December.

Assignment 8: Data Analysis

1. Mean: $39/13=3$, Median **3**, Mode **3 and 4**
2. Mean: $376/10=37.6$, Median: **34**. Mode: **35**
3. \$525
4. 21
5. **A** - 25 years - The ***range is the difference between the least and the greatest.*** To find the range between the oldest (greatest) and youngest (least) you subtract.

Oldest – youngest = range
Oldest - 10 years = 15 years
What number minus 10 is 15? The answer is 25.
You could also solve by adding $15 + 10 = 25$

6.

Mathematics Indicator Q.8.a: Calculate the mean, median, mode, and range. Calculate a missing data value, given the average and all the missing data values but one, as well as calculating the average, given the frequency counts of all the data values, and calculating a weighted average. Know the effect of outliers.

Depth of Knowledge (DOK) Level 2: This drag-and-drop item requires working backwards in the context of statistics. A partial data set, the median, and the mode are provided in order to determine the missing data points. This item requires a great deal of reasoning as step one is to recognize that one data point must be related to the mode of 2, then determine the remaining data point using the value provided for the median and finally complete the line plot given. This complex reasoning, along with the creation of a data display, represents a DOK level of 2.

Answer Rationale:

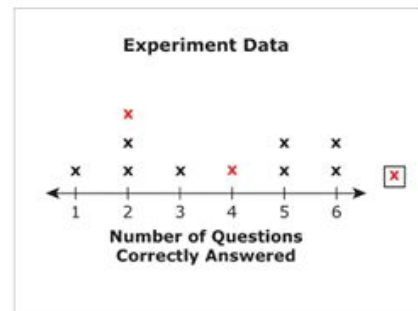
The response demonstrates an understanding of median in that it requires test-takers to complete a line plot when given summary statistics and a partial data set.

The number of people in the experiment is 10, but the graph shows only 8 entries, meaning that two Xs must be added to the line plot.

The mode is the number that occurs most often in a set of data. The given mode is 2, meaning that there are more 2's in the data set than any other value. The given graph has an equal number of 2's, 5's and 6's. Thus, a 2 must be added to the graph.

The median of a set of data is the middle number when the data are arranged in numerical order or the average of the two middle numbers if there is an even number of data entries. For the median to be equal to 3.5, with 10 entries, there should be five data entries less than 3.5 and five data entries greater than 3.5, with an entry at 3 and an entry at 4 so that the average of the middle entries is 3.5. Because there is an entry at 3, an X must be placed on 4.

To complete the line plot, the test-taker should place one X at 4 and one X at 2.



Assignment 9: Scientific Notation - Chart on following page

Write each number in standard format
1) $6.971 \times 10^{-4} = 0.0006971$
2) $5.898 \times 10^{-1} = 0.5898$
3) $5.97 \times 10^5 = 597,000$
4) $9.79 \times 10^2 = 979$
5) $7.6491 \times 10^{-2} = 0.076491$
6) $5.939 \times 10^{-9} = 0.0000000059390$
7) $2.693 \times 10^{-3} = 0.002693$
8) $6.4011 \times 10^4 = 64011$
9) $5.02 \times 10^9 = 5,020,000,000$
10) $9.74 \times 10^{-5} = 0.00009740$
Write each number in scientific notation.
11) $5.1644 \times 10^7 = 51644000$
12) $4.7767 \times 10^6 = 4776700$
13) $8.879 \times 10^8 = 887900000$
14) $3.529 \times 10^{-4} = 0.0003529$
15) $2.374 \times 10^{-8} = 0.000000023740$
16) $4.5327 \times 10^1 = 45.327$
17) $9.97 \times 10^{-7} = 0.0000009970$
18) $5.9232 \times 10^4 = 59232$
19) $9.7285 \times 10^3 = 9728.5$
20) $6.37 \times 10^{-6} = 0.000006370$

Lesson 4

Science

Assignment 1: Energy

1. D
2. A
3. B
4. D
5. A
6. D
7. A

8. Suggested answer: Some of the kinetic energy the ball has when it strikes the floor is retained but some of it is transformed. Some of the kinetic energy is used to make the ball bounce but not all of it. Some energy is used to change the shape of the ball; some of its energy has been transferred to the floor or transformed into sound and thermal energy. So each time the ball bounces it loses a bit of kinetic energy, and after several bounces it has so little of kinetic energy left that it ceases to bounce.

9. Suggested answer: When the ball is lifted, the ball is storing potential energy. The higher the ball is lifted, the more potential energy is stored inside it. When the ball is let go, its potential energy is transformed to kinetic energy as the ball is moving. Kinetic energy builds up as the ball falls. When the ball collides with the ground, some kinetic energy is transformed into sound and thermal energy while some is used to change the shape of a ball for a split second. The ball bounces because elastic potential energy is transformed to kinetic energy but the ball doesn't get as high because it has less kinetic energy than it started with.

10. D. The triangle form of the diagram is intended to show that energy transfers upward through the various levels of consumers. Therefore, this response correctly interprets the graphic representation and describes one aspect of the relationship

between primary and secondary consumers with regard to energy. That is, energy is directly transferred from primary consumers to secondary consumers.

11. E potential energy is greater at a higher point

Assignment 2: Everyday Energy

1. A
2. B
3. D
4. C
5. D
6. A
7. C

8. Suggested answer: The Hoover Dam provides power to California, Nevada and Arizona by harnessing the converted potential energy of Lake Mead

9. Suggested answer:(1) How much water is required downriver from the dam and (2) the water levels of Lake Mead determine the energy production of the Hoover Dam

Assignment 3: No Bullying

1. A
2. D, The author says that experiments show that bullying is a natural response to situations, hard-wired into the human brain. A natural response means that that response was in that person before anything else came along. Something that is hard-wired is attached permanently.
3. D
4. A, In the context of the paragraph, there is no indication that the researchers were concerned about the public's opinion. The author indicated that the researchers were interested only in making sure the test results were accurate.

5. B, In this paragraph, the author points out verbal criticisms such as “Great, we’re never going to win now”. He then states that 80% of all cases with such remarks caused team leaders to entered bully mode. We can conclude that the word disparaging used in the context of a “disparaging ornery team members with remarks such as “Shut up”, refers to the use of words. The abuse is verbal. This leads us to the answer B

6. Answers will vary.

Assignment 4: Sentence Completion

1. A The main clue in this question is the word “though,” which sets up an opposite relationship between how Peter “did not appear to be particularly” and what he actually was. The missing words describe what he did not appear to be and what he actually was, so they must be synonyms in order to maintain the opposite relationship. Brawny means strong and muscular, while strongest means having the most power and ability to move heavy objects. These words have similar meanings, so choice (A) is correct.

2. D The main clue in this question is the phrase “the teacher asked his students a series of questions.” This describes what the teacher did “in order to” have an effect on the class’s “discussion about the novel.” By asking specific questions, the teacher probably started or encouraged an ongoing discussion, so the missing word must mean encourage or start. Because facilitate means to make a process easier, choice (D) is correct.

3. C The main clue in this question is the word “though,” which indicates a negative or opposite relationship between the two parts of the sentence. This means that the clause containing the missing words describes something unexpected, given that the “the attorney did not directly state that the witness was a liar.” If the jury still figured out that the witness was a liar, this would be the opposite of what is expected. Therefore, the first missing word must describe the jury’s actions or conclusions, while the second missing word must mean honest, since it is modified by the “not” that precedes it.

Because infer means to deduce something from evidence rather than explicit statements, while trustworthy means reliable or honest, choice (C) is correct.

4. B The main clue in this question is the word “and,” which is used to link parts of a sentence that state similar information. This means that there is a relationship between what the helicopter did “over the scene of the accident” and the fact that it “lingered at a low altitude.” The missing word must, therefore, describe lingering over the scene. Because hovered means remained in one place in the air, choice (B) is correct.

Assignment 5: Verbs 1/Verbs II

1. plays- action
2. will return – action
3. is – state of being or linking verb
4. have been – state of being/linking
5. should have been playing-action
6. go – action

Assignment 6: Punctuation and Capitalization

Dear Great-Uncle Eddie,

I am excited about seeing you when you come for a visit next month. We will pick you up at Greensboro Regional Airport on Saturday, April 15 at 6p.m. Please be sure to bring a bathing suit, towel, and sunscreen. Could you, also, please bring the latest family photos? I can't wait to see you!

Love,

Jay

Lesson 4 Math

Assignment 1: Mathematical Reasoning

1. 9

2. 36

3. 1.6

4. $\frac{1}{4}$

5. $1\frac{1}{4}$ or $\frac{5}{4}$

6. 3

7. 9

8. 125

9. -4

10. -11

11. -5

12. -8

13. -4

14. 10

15. -12

16. 2

17. 8

18. -10

19. 6

20. -6

Assignment 2: Math/Solving for the Unknown

1. $x - 4 = 12$ $x = 16$

6. $x + 5 = 20$ $x = 15$

2. $x + 4 = 12$ $x = 8$

7. $x/4 = 52$ $x = 208$

3. $x/4 = 12$ $x = 48$

8. $x + 10 = 310$ $x = 310$

4. $4x = 12$ $x = 3$

9. $6x + 2 = 11$ $x = 1.50$

5. $x - 5 = 25$ $x = 30$

10. $7x = 28.84$ $x = 4.12$

Assignment 3: Exponents

1. -27 6. 729

2. 36 7. -64

3. 49 8. -1728

4. 100 9. 125

5. 8 10. 144

Assignment 4: Graphs

1. Export and Imports of a Country (In US Dollars, Millions)

2. The average exports is $\frac{157 + 159 + 171 + 168 + 145 + 168}{6} = 161.33$

3. 1996

4. 1994

Assignment 5: Interpreting Charts

1. $44\% + 9\% + 14\% = 67\%$ **C**

2. Heating and Cooling

Assignment 6: Line Graph

1. May (45)

2. January (20)

3. $45 - 20 = 25$ The range is the difference between the greatest and least amount.

4. January and March month had sells less than 30

Assignment 7: Bar Graph

1. Mean – a. 14.3

* To find the mean of this set of data, add the number of boys and divide by the number of grades. $\frac{23+12+5+27+18+1}{6} = 14.3$

Median – b. 15 *The median is the number in the middle. Put the data in order from least to greatest. Since there are 6 numbers in this set of data, you must add the two numbers that share the middle and then divide their sum by 2

1 5 **12 18** 23 27 = 15

$$\frac{12+18}{2} = 15$$

Mode – d. None

*The mode is the number that appears the most often. In this set of data each number only appears once.

Range – c. 26

*The range is the difference between the greatest and least amount in a set of data
 $27 - 1 = 26$

*This information was covered in lesson 3 if you need to review.

2.A, 0 the correct answer is 0. This number represents the x-coordinate of the starting point of the only line segment that increases from left to right. The x-coordinates on the graph show the number of hours after taking ibuprofen.

b) $\frac{2}{3}$ this number represents the x-coordinate of the ending point of the only line segment that increases from left to right. The x-coordinates on the graph indicate the time.

Lesson 5

Math

Assignment 1: Value of Expressions

- | | |
|--------|--------------|
| 1. 49 | 8. 63 |
| 2. 51 | 9. -13 |
| 3. -27 | 10. $P = 20$ |
| 4. 14 | 11. $A = 10$ |
| 5. 5 | 12. 120 mi |
| 6. 13 | 13. 125 |
| 7. 27 | 14. $C = nr$ |

Assignment 2: Formulas

- | | |
|--------------------------|---------------------------|
| 1. 4000 | 8. 2.25 mi^2 |
| 2. 480 cubic inches | 9. 36 |
| 3. 18.85 feet | 10. 113.04 in^2 |
| 4. 6.28 meters | 11. 78.54 ft^2 |
| 5. 48 feet | 12. 1 cm^3 |
| 6. 320 feet | 13. \$1,000 |
| 7. 30 square centimeters | 14. \$3,500 |

Assignment 3: Formulas Continued

1. **B** This question involves determining the volume of a cone by substituting the appropriate values into the formula. The first step is in recognizing that the diameter is given, rather than the radius, requiring you to divide the diameter by 2. After substituting values into the formula, you must convert the result from a mixed number

into a decimal. You can, also, convert the mixed number measurements into decimal form before substituting it into the formula.

The paper drinking cup is in the shape of a cone. In order to determine the volume of the cone, you must first find the radius. The diameter of the cone is $2\frac{1}{4}$ or $1\frac{1}{4}$ inches. Because the radius is half of the diameter, the radius is $\frac{11}{8}$ inches. You must substitute these and other measurements into the formula for the volume of a cone, which results in $V = \frac{1}{3} \pi (\frac{11}{8})^2 (4)$, which is equal to approximately 7.9 cubic inches.

Assignment 4: Surface Area

1. 6 cm^2

$$SA = 6(1)^2$$

$$SA = 6(1)$$

$$SA = 6 \text{ cm}^2$$

2. 158 in^2

$$SA = ph + 2B$$

$$SA = (5+3+5+3)(8) + 2(3 \times 5)$$

$$SA = (16)8 + 2(15)$$

$$SA = 128 + 30$$

$$SA = 158 \text{ in}^2$$

3. **C** The surface area for the original square is 54 cm^2 . The surface area for the square doubled is 216 cm^2 . To find out by how much is area increases you subtract: **$216 \text{ cm}^2 - 54 \text{ cm}^2 = 162 \text{ cm}^2$**

Assignment 5: Surface Area Continued

Example: 122

1. 199.2

2. 84.7

3. 210

4. 25.8

5. 139.2

6. 80

7. 210

9. 54.17 in²

10. 184 in²

11. 512 ft²

12. \$26.00

13. 288 in²

14. 288 in⁶

Lesson 5 Language Arts and Social Studies

Assignment 1A: Writing

In my experience, one of the best ways to recover from an injury is to complete the physical therapy that the doctor prescribes. Broken bones, torn ligaments, and damaged muscles all benefit from strengthening, stretching, and retraining. Many patients, though they promise to follow doctor's orders, disregard the instructions. They later complain about not getting better, and their recovery requires additional time and money. We tend to want instant recovery, but we don't want to do the work to have it. When the doctor says, "Ralph, begin stretching gently after a week", she doesn't mean "Ralph, stretch after about a month." While there is a time for rest, there is also a time for action if you want the best recovery possible.

Assignment 1B: Grammar

1. I don't want to argue with you, yet I don't want to give in.
2. She had lots of friends, for she was a friendly girl.
3. I had a cute puppy, but I lost him.
4. He studied for the test, so he got a good grade.
5. Jim can boil eggs, and Sally can make toast.

Assignment 1C

6. He lives near the beach; the salty air is making his car rust.
7. We did an experiment in class; all the students participated.
8. It was a very hot day; I had to use a fan to keep cool.
9. My friend was feeling sick; I walked her to the nurse's office.
10. The traffic on the freeway was horrible; I decided to wait.
11. D
12. C –For most people, choosing the paint color can be the most intimidating part of the project for most people.

Assignment 2

1. A.
2. D
3. E.
4. B
5. D
6. A
7. D
8. C

Assignment 3 - The Declaration of Independence

1. C 6. A
2. B 7. D
3. A
4. B
5. C

8) Suggested answer: An important part of American democracy has become the right for people to watch their government in action.

9. Suggested answer: Answers should indicate that the Declaration of Independence reflected the frustration of the colonists with the British King by listing a series of complaints that captured the “history of repeated injuries and usurpations” the colonists suffered under the British monarchy. Since the Declaration of Independence was read aloud throughout the colonies and built a tone of rage and indignation the colonists could relate to, the colonists were most likely enraged upon hearing the document read. They would most likely be motivated to join armies and fight against British rule.

Assignment 4: The U.S. Constitution

1. D
2. B
3. E
4. C
5. A
6. C
7. D
8. C
9. A
10. The Legislative Branch
11. The Executive Branch
12. The Judicial Branch
13. Answers will vary.

Assignment 5: Primary and Secondary Source

1. **B**

2. **A**, Of the three branches of the U.S. government, only the legislative branch is involved in the amendment process whereas both the legislative and executive branches are involved in creating federal laws. In the table it is explicitly shown that the only government branch involved in the amendment process is the legislative branch.

3. **A**, The excerpt from a primary source explicitly states that the 17th Amendment “will prevent men buying a seat in the Senate.” It can logically be inferred from the evidence in this statement that, in contrast to the original method of having senators appointed by state legislatures, direct election of senators will limit the influence of the wealthy, “those capable of buying a seat.”

4. **B**, The term “formal assemblies” best fits the meaning of the term “convention” as it is used in the table and the passage as they both refer to legislative bodies and conventions. The historical and political context of the table and the passage makes it clear that as used, “convention” is a kind of assembly.

Assignment 6 - Timelines

1. What does the timeline represent?

The timeline represents Historical Periods of the United States of America.

2. What is the time span of this timeline?

The span of this timeline is from 1754 to the present day.

3. List three historical periods on the timeline.

Example: 1850-1877 Civil War and Reconstruction

4. Notice how the historical periods overlap in the timeline. Why do you think they overlap? Answers will vary. Answers should include such ideas as:

Changes that take place in society (cultural, political) do not happen in one instance. Change happens gradually and each change creates events that change life-history. Each event leads to another, a domino effect occurs, and change happens. As one period in history is beginning the other is coming to an end.

Lesson 6

Science and Language Arts

Assignment 1: Science Summarizing Article

Answers will vary.

Legend has it that an apple falling from a tree was the beginning of Isaac Newton's study of the force of gravitation. Newton is responsible for the Universal law of Gravitation. He recognized that the force of gravity acted on objects causing acceleration. The acceleration of objects due to gravitational force affects objects on earth as well as the moon.

Assignment 2: Science

1. **C** When the net force(8) stays the same and the mass of 2 doubles to 4, the acceleration decreases from 4 to 2
2. **B** This equation correctly determines the force by multiplying the mass of the object by the acceleration of the object (change in velocity over time), according to Newton's Second Law
3. **D**
4. **C** Based on Newton's laws and object in motion moves in a straight line. Since the planet is on a curved path, an outside force (*gravity is a force*) must be affecting the planet's path. Therefore, the answer is C

Assignment 3: Sir Isaac Newton and LeBron James

1. B
2. D
3. C
4. B
5. D

6. D

7. C

8. **Suggested Answer:** The rocket uses its engines to push down on the surface of the Earth. Then the ground pushes the rocket upwards using an equal amount of force.

9. **Suggested Answer:** This force is created by the energy stored inside his muscles.

10. **Suggested Answer:** When LeBron James jumps to dunk a basketball, he is using energy to drive force into the court. This force is the “action” that Newton mentioned in his Third Law. The “reaction” comes from the ground pushing LeBron James upwards with an opposite and equal amount of force.

Assignment 4: Using Cellphones and Computers to Transmit Information

1. D

2. C

3. A

4. B

5. D

6. D

7. C

8. **Suggested Answer:** Responses may range from the general ("Cellphones are used to send and receive information in speedy ways invisible to the human eye.") to the comparatively specific ("Cellphones are used by people to speak with each other over long distances."). As long as the answer comes from the passage, it is acceptable.

9. **Suggested Answer:** At minimum, students should answer that a cellphone transmits information by connecting to a cellular network. They may add such details as the speaker's voice input being broken down, turned into an electronic signal, and reassembled on the receiving end.

10. **Suggested Answer:** Answers may vary, as long as they are supported by evidence from the passage. Students may argue that on a literal level, cell phones cannot be described in the same way. Cellphones are devices that use networks to

send information; cellphones are not the networks themselves. However, students may also interpret the term "cell phones" broadly, encompassing cellular networks. In that case, sharing could be considered a goal of cellphones, given that their purpose (as described in the passage) is to send information from one person to another.

Lesson 6 Math

Assignment 1A: *Adding and subtracting fractions*

1. $\frac{4}{9}$
2. $\frac{5}{7}$
3. $\frac{1}{2}$
4. 1
5. $1\frac{1}{5}$
6. $1\frac{3}{4}$
7. $\frac{5}{6}$
8. $\frac{15}{16}$
9. $\frac{11}{12}$
10. $\frac{19}{24}$
11. $\frac{4}{5}$
12. $1\frac{1}{20}$
13. $\frac{1}{24}$
14. $31\frac{2}{3}$
15. 10
16. $27\frac{1}{3}$
17. $10\frac{11}{16}$
18. $14\frac{1}{6}$
19. $\frac{7}{11}$
20. $\frac{2}{9}$
21. $\frac{1}{2}$
22. $\frac{1}{2}$
23. $\frac{1}{4}$
24. $\frac{3}{8}$
25. $\frac{1}{2}$
26. $\frac{1}{2}$
27. $3\frac{1}{2}$
28. $1\frac{1}{5}$
29. $3\frac{3}{8}$
30. $5\frac{1}{10}$
31. $12\frac{3}{5}$
32. $\frac{1}{2}$

33. $1 \frac{1}{2}$
34. $4 \frac{5}{8}$
35. $7 \frac{17}{24}$
36. $1 \frac{19}{24}$

Assignment 1B: Multiplying and dividing fractions

1. $\frac{6}{35}$
2. $\frac{2}{3}$
3. $\frac{3}{8}$
4. $23 \frac{11}{12}$
5. $\frac{1}{9}$
6. $24 \frac{7}{16}$
7. $\frac{9}{28}$
9. $1 \frac{1}{3}$
8. $2 \frac{1}{3}$
10. 18
11. $2 \frac{92}{99}$
12. $\frac{1}{5}$

Assignment 2: Ratios and Proportions

1. $\frac{9}{10}$
2. $\frac{3}{5}$
3. $\frac{2}{1}$
4.
 - a. $\frac{6}{1}$ Whatever comes first in the question is the first number; games played / losses
 - b. $\frac{5}{1}$
 - c. $\frac{1}{6}$
 - d. $\frac{1}{5}$

Assignment 3: Proportions

1. 7
2. 150 miles
3. 30 gallons

Assignment 4: Percents

<u>Problem</u>	<u>Part</u>	<u>Whole</u>	<u>Percent</u>
1.	110	220	50%
2.	6.3	36	17.5%
3.	\$59,400	\$54,000	110%
4.	60	300	20%
5.	75	50	150%
6.	78.3	120	65.25%
7.	42	56	75%
8.	168	1400	12%
9.	1715.8	1492	115%

Assignment 5: Percent of Change

1. 7.3%
2. 16 2/3% or 16.7%
3. 15%
4. \$97,520

Assignment 6: Proportions and Probability

1. B $\frac{14}{5} = \frac{x}{2}$ obtaining the solution $x = \frac{28}{5} = 5.6$.

2. D first find the amount of commission by calculating 8% of \$4,213 which comes to \$337.04. This amount is then added to the weekly salary of \$284, giving the answer of \$622.04

3. 6.75 you have to find the compound probability of rain on all three day. Convert the three percents to decimals (.30) (.45) (.50) = .0675. Next convert the decimal back to a percent by moving the decimal point two places to the right.

4. C

Lesson 7 Science (and Language Arts)

1. What is the Atomic number of:

Calcium 20

Iron 26

Gold 79

Uranium 92

2. What is the Atomic mass of:

Calcium 40.08

Iron 55.85

Uranium 238.03

Copper 63.54

3. How many protons do the following have?

Calcium 20

Gold 79

Copper 29

Iron 26

4. How many electrons do the following have?

Gold 79

Iron 26

Copper 29

Uranium 92

5. Does mercury have more protons and electrons than tin? **Yes**

6. Is mercury a heavier element than tin? **Yes**
7. Does potassium have more electrons than neon? **Yes**
8. Does hydrogen have more electrons than Uranium? **No**
9. Which has more protons—sulfur or iodine? **Iodine**
10. Write the symbols or the names for each of these elements:

Chlorine CC

Copper Cu

Potassium K

Silver AG

Na Sodium

Sn Tin

Zn Zinc

HeliumHe

Iron Fe

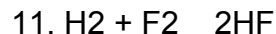
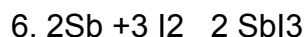
P Phosphorus

Ne Neon

Mercury H

Assignment 2





14. **A. There must be an equal number of atoms of each element on both sides of the equation.**

15. **A. Place the coefficient 2 in front of oxygen and nitrogen dioxide.**

16. **C. The coefficient of iodine is 4, oxygen is 9, and the product is 2**

17. **B. Atom**

18. **A. These are the physical properties of water.**

19. **D. The molecular structure has changed.**

20. **C. Water boiling**

21. **B. Wood burning**

22. **C. Glucose is broken down in the presence of oxygen to release energy.**

Assignment 3

1. **C physical and chemical**

2. **D the chemical properties of matter**

3. **A.The explosion of fireworks is an example of a chemical reaction.**

4. **A a physical change**

5.**B matter**

6. **C qualities or characteristics**

7. **B namely**

8. **Suggested answer:** Students may name any physical property mentioned in the passage. Examples include mass, buoyancy, and color.

9. **Suggested answer:** Students may name any chemical change mentioned in the passage. Examples include burning and changing color.

10. **Suggested answer:** Answers may vary, as long as they are supported by the passage. For instance, students may respond that physical properties are easier to observe because they often do not require anything besides the object itself to see. Observing a chemical property requires the presence of additional matter or a change in conditions. A person can tell at a glance that a stick is brown (a physical property), while they would have to try setting it on fire to determine that it is flammable (a chemical property).

Assignment 4

1. A

2. No Change

3. C – The second sentence in paragraph 2 states that “a man who lived during the Depression talked about **his family’s** frugality”. In the third sentence of paragraph 2, the pronoun ‘**they**’ refers back to **his family**.

4. C

5. A and C

Assignment 5

1. B

2. C

3. B-The word makeshift used in the excerpt means to substitute something-to turn something into something else temporarily. This infers that the places the people were living were of temporary nature. The word foraged means to search for: to rummage through. The last sentence in the excerpt tells us that people searched through the garbage for food.

Answer C is incorrect. A suburban neighborhood is simply a residential area on the outskirts of a city.

Summary examples:

4. When the stock market crashed people lost jobs and wages fell. As consumers lost the power to buy, businesses failed and people lost their homes, cars and other possessions. Farmers were also affected by the collapse in food prices which led to a loss of land and homes for them as well.

5. During the Great Depression people were jobless. President Hoover encouraged the creation of public jobs, but said he believed it was up to the state and local governments to pay for them.

6. The unemployed blamed Hoover for not helping their situations with government money, so they mockingly called their homes *Hoovervilles*. They blamed Hoover for their situation and were called “the forgotten man at the bottom of the economic pyramid”.

Assignment 6

1. D

2. C.

Lesson 7 Math

Assignment 1

1. $2x^2 - 3x + 12 + 4x - 5x^2$

A. What are the like terms?

$2x^2$, $-5x^2$

$-3x$, $4x$

$+12$

B. $2x^2 - 5x^2 - 3x + 4x + 12$

$-3x^2$ $+x$ $+12$

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

a. What are the like terms?

$5x^2$, $-2x^2$, x^2

$7x$

$+7$, $+2$

b. Simplify the expression.

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

$4x^2$ $+7+9$

3. $-6 + 2x + 3x = 29$

$-6 + 5x = 29$

$5x = 29 + 6$

$5x = 35$

answer **$x = 7$**

4. $2y + -1y + -1y + x = -13$

$2y + -2y + x = -13$

$0 + x = -13$

answer $x = -13$

5. $6x + -2 + 2x = -2 + 4x + 8$

answer $x=2$

6. $x + 2 + 2 + 5x = 19 + x + 5$

answer $x = 4$

7. $3 + 4x + 10 = 5x$

answer $x = 13$

Assignment 2

1. Circle

2. not circled

3. Circle

4. Circle

5. A

6. B

7. degree 5

8. degree 0

9. B

10. B and C

11. B and D

12. degree 2

13. degree 1

14. degree 2

15. degree 2

16. A C E

17. $5x^3 - x^2 + 9$

Assignment 3

1. No

2. No

3. C

4. B

5. $5g^2 + 9g$

6. $-m^5 - 8m^2 - 10m$

7. $-12x^2 + 11x + 1$

8. $8x^3 - 6x^2 + 14x - 4$

9. A

10. $9a^2 + 8b + 5$

11. $3m^2 + 14m + 3$

12. $-4.5x^2 + 60x + 311$

Assignment 4

1. Already done for you

2. $(3t, -6t) (8t^2) (-9, -4)$

3. $3t - 6t + 8t^2 - 9 - 4$

4. $8t^2 - 3t - 13$

5. Write the expression using addition. This is done by using the distributive property:

$3c^2 + c^2 + 7c + 12c - 1 - 9$

Identify the like terms:

$(3c^2, c^2) (7c, 12c) (-1, 9)$

Group and write in standard form:

$3c^2 + c^2 + 7c + 12c - 1 - 9$

$4c^2 + 19c + 8$

6. Write the expression using addition. This is done by using the distributive property:

$-10x + -5 + -2x^2 + 10x$

Identify the like terms:

$(-10x, 10x) (-2x^2) (-5)$

Group and write in standard form:

$-2x^2 + -10x + 10x + -5$

$-2x^2 + -5$ or $-2x^2 - 5$

7. Write the expression using addition. This is done by using the distributive property:

$$2x^2 + 7x + -6 -3x^2 +2x + -5 + -2x + -3$$

Identify the like terms:

$$(2x^2, -3x^2) (7x, 2x, -2x) (-6, -3, -5)$$

Group and write in standard form:

$$2x^2 + -3x^2 +7x +2x + -2x + -6 + -3 + -5$$

$$-x^2 + 7 + -14 \quad \text{or} \quad -x^2 + 7 - 14$$

Lesson 8 Language Arts and Social Studies

Assignment 1

From the Inaugural Address of President John F. Kennedy January 20, 1961

Let every **nation know, whether it wishes us well** or ill, that we shall **pay any price, bear any burden,** meet any hardship, support any friend, oppose any foe, to assure the **survival and the success** of liberty.

So let us begin anew -- remembering on both **sides that civility is not a sign** of weakness, and **sincerity is always subject** to proof. Let us **never negotiate** out of fear, but let us **never fear to negotiate.**

Finally, whether you are citizens of America or citizens of the world, ask of us **here the same high standards of strength** and sacrifice which we ask of you. With a good conscience our only sure reward, with history the final judge of our deeds, let us go forth to **lead the land we love,** asking His blessing and **His help,** but knowing that here on earth God's work must truly be our own.

From "Kidnapped" by Robert Louis Stevenson

Here he cast about for a comfortable seat, lighted on a **big boulder under a birch by** the trackside, sat down upon it with a very **long, serious upper lip,** and the **sun now shining** in upon us between two **peaks, put his pocket-handkerchief** over his cocked hat to shelter him.

By this time, now and then **sheering to one side** or the other to avoid a reef, but still hugging the wind and the land, we had got round Iona and begun to come alongside Mull. The **tide at the tail** of the land ran very strong, and threw the brig about. Two hands were put to the **helm, and Hoseason himself would sometimes lend a help;** and it was **strange to see three strong men throw their** weight upon the tiller, and it (**like a living** thing) struggle against and drive them back. This would have been the greater danger had not the sea been for some while free of obstacles. Mr. Riach, besides, announced from the top that he saw clear water ahead.

Assignment 2

1. Hyperbole
2. none
3. Hyperbole –the dress did not actually hurt the man’s eyes-the dress did not harm anything.
4. Hyperbole - this is an extreme exaggeration – bed sheets for diapers - Larry is actually an adult

Assignment 3 - Part 1

1. Oxymoron - An **oxymoron** is a set of words that when put side by side, seem to be contradictory to one another.. “definite maybe”
2. Paradox - a **paradox** is a larger sentence, situation or idea that is an apparent contradiction. “I must be cruel to be kind.” It takes the entire sentence to see the meaning.
3. Oxymoron - An **oxymoron** is a set of words that when put side by side, seem to be contradictory to one another. “a deafening silence”
4. Oxymoron - An **oxymoron** is a set of words that when put side by side, seem to be contradictory to one another... “honest thief”
5. Paradox - a **paradox** is a larger sentence, situation or idea that is an apparent contradiction. “No one goes to that store because it is too crowded.”
6. Paradox - a **paradox** is a larger sentence, situation or idea that is an apparent contradiction. “She was busy doing nothing.”

Assignment 3 - Part 2

“more equal” is the oxymoron

Answers should include the following: Equal by definition means an identical amount. Therefore, one equal thing cannot have more than a thing that is equal to it.

Assignment 4

Personification is underlined in each passage.

Key

His father, Elmo, a huge St. Bernard, had been the Judge's inseparable companion, and **Buck bid fair to follow in the way of his father.** He was not so large,--he weighed only one hundred and forty pounds,--for his mother, Shep, had been a Scotch shepherd dog. Nevertheless, one hundred and forty pounds, **to which was added the dignity** that comes of good living and universal respect, **enabled him to carry himself in right royal fashion.** During the four years since his puppyhood **he had lived the life of a sated aristocrat; he had a fine pride in himself, was even a trifle egotistical, as country gentlemen sometimes become** because of their insular situation.

I wandered lonely as a Cloud

That floats on high o'er Vales and Hills,

When all at once I saw a **crowd**

A host of dancing Daffodils;

Along the Lake, beneath the trees,

Ten thousand dancing in the breeze.

The waves beside them danced, but **they**

Outdid the sparkling waves in glee: –

A poet could not but be gay

In such **a laughing company:**

I gaz'd – and gaz'd – but little though

Assignment 5

1. Andrew; a fox
2. He; a cat
3. Smile; sugar
4. His hair; fried chicken

Assignment 6

1. The calm lake was a mirror, reflecting the mountains in the distance.
2. When my dad makes up his mind he is a rock, not budging an inch.
3. The lava was a blanket of fire that scorched all the plants in its path.
4. Spinning contentedly, the spider was an artist preparing a masterpiece.

Assignment 7

1. C
 2. E
 3. A
 4. F
 5. B
 6. G
 7. D
-
8. A) alliteration –repetition of ‘k’ sound B) Simile – use of ‘as’
 9. A) Onomatopoeia –the word ‘ribbit’ indicates that a sound is being made
B) Personification –the animals are using the human characteristic of speech

Assignment 8 "Main Street"

1. **A** Only choice A emphasizes that the character was expecting something other than what she sees. The language the author uses: “unprotected and unprotecting” and “no dignity” is the reality. Her seeing “no dignity... nor any hope of greatness” suggests that she had higher expectations
2. **A** Only choice A accurately describes the character in a way that is supported by the text. Her eagerness can be seen in phrases like “a great many people” and “would

be so lovely.” Her doubt is seen in her questioning of her own memories of what she had seen: “hadn’t they?”

3. **A** Only choice A accurately describes the character in a way that is supported by the text. Her eagerness can be seen in phrases like “a great many people” and “would be so lovely.” Her doubt is seen in her questioning of her own memories of what she had seen: “hadn’t they?”

Assignment 9 The Great Debate

1. The correct answer is E.

A) The debating styles of John Kennedy and Richard Nixon during the 1960 Great Debates were similar, since TV viewers and radio listeners ended up with different opinions of who won the debates.

B) The candidates had similar agendas and arguments, so domestic issues were not pivotal.

C) Richard Nixon was not sick at the time of the 1960 Great Debates. He was thin and pale, but there is no mention that he was sick.

D) The number of television viewers who tuned in to the 1960 Great Debates was not the author’s main concern.

E) Correct. The effect of television on the results of the 1960 Great Debates was the main concern of the author

2. The correct answer is C.

A) Kennedy was not a better debater than Nixon: people who followed the debates on radio thought Nixon had won the debates.

B) Nixon was not the unequivocal winner of the 1960 debates; people who watched the debates on TV thought Kennedy was the winner.

C) Correct. The Democrat beat the Republican in the 1960 election; there was a party shuffle. This is mentioned in the last line (21) of the passage. Since Nixon, the

Republican, was the incumbent, the shuffle resulted in Democrats taking office.

D) There is no mention of whether Nixon was more prepared for the first debate than Kennedy. Kennedy rehearsed the day of the debate.

E) Kennedy and Nixon did not disagree strongly on issues on the home front. They had similar agendas and arguments.

3. The correct answer is E.

A) He had a five o'clock shadow during the first debate. While this fact is widely known, it is not mentioned in the passage.

B) He did not wear a brown suit during the first debate. His suit was obscured by the ashen-colored – gray – paint.

C) Whether Nixon warned of the impending Cuban crisis was not mentioned in the passage.

D) Whether Nixon limped is not mentioned in the passage.

E) Correct. Nixon lost his job after the election. Since there was a party shuffle, the incumbent lost his job. The incumbent Vice President was Richard Nixon.

Assignment 10: JFK's Inaugural Speech

1. The torch refers to leadership and political power. The new generation must defend freedom, as "heirs of the first revolution." It applies to President Kennedy as he was the youngest elected President and was the first born in the 20th century. Therefore, JFK was part of the new generation.

2. The tiger represents the people. Kennedy is warning dictators that trying to get power by suppressing the people ends with the people rising in a revolt against tyranny. The dictator may be "eaten" by the people's desire for freedom.

Assignment 11: Summary

Answers will vary but should include;

- President Kennedy's speech is urging this generation of Americans to rally and show their patriotism and their love of freedom.
- He ask them to look back to the past generations for an example of national loyalty and to become a part of history in the making by leading the country against the common enemies of man.
- The famous quote," Ask not what your country can do for you –ask what you can do for your country" comes from this speech.

Example:

The main idea of John F Kennedy's Inaugural speech was for the people of the United States to become a unity that supports freedom and human rights for all mankind. President Kennedy reminded the people of the past generations' national loyalty and encouraged them to become a part of history by leading the country against the common enemies of man. This speech includes the famous quote, "Ask not what your country can do for you-ask what you can do for your country"

Assignment 12: Economics

Economy - What is it?

1. F
2. F
3. T
4. F
5. T

Supply and Demands

1. F
2. F
3. T

Recession

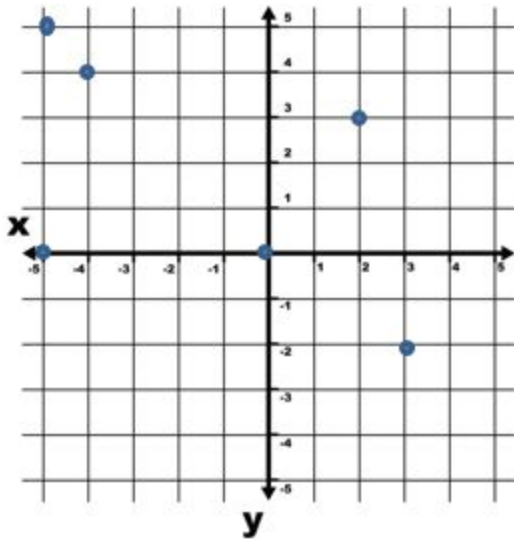
1. T
2. T - True (Depression is a more severe downturn than a recession)
3. F - False - b (It refers to periods of growth as well as periods of stagnation or decline)
4. F

Scarcity and Choice Section

1. 450 sandwiches: Point A
2. 150 sandwiches ; 300 subs
3. 50 sandwiches; at Point B, Sam would be producing 50 fewer sandwiches that he could produce.
4. 150 subs; at Point C, Sam would be producing 150 fewer subs that he could produce
5. D. Scarcity exists because people have many wants and needs, but they have limited resources (money and time).
6. B. Production possibility curves show the number of items a supplier can produce when the supplier is making more of one item.

Lesson 8 Math

A.



B. The Origin

Assignment 2

Domain	Range
x	y
-1	0
1	-2
1	3
4	5
3	3
5	6
7	0

8. **No**, this relation is not a function. In the domain, 1 maps to both 2 and 4 in the range

9. **Yes**, this relation is a function. While the domain values of 2 and 3 both map to 4, each input has only one output.

Assignment 3

1. 6.0, 6.6, 6.8, 7.6

2. 4.2, 5.0, 5.2, 6.4

3. A

4. C

5. C.

6. Domain: **(0, 1, 2, 3, 4,)**

Range: **(25000, 21250, 17500, 13750, 10000)**

Yes, this relation is a function. Each input has exactly one output.

Assignment 4

1. **A.** Any vertical line you look at on this graph passes through only one point at a time
2. **B.** A vertical line would pass through two points at the same time
3. **B.** A vertical line would pass through two points at the same time
4. **A.** Any vertical line you look at on this graph passes through only one point at a time

Assignment 5

1. C = domain F = range

2. Domain: **(0, 10, 25, 35)**

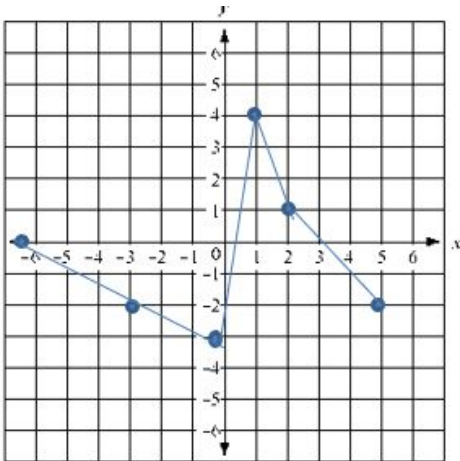
Range: **(32, 50, 77, 95)**

3. Inverse: **(32,0), 50,10), (77,25), (95,35)**

Relation	<u>Inverse</u>
(-6,0)	(0,-6)
(-3,-2)	(-2,-3)
(0,-3)	(-3,0)
(1,4)	(4,1)

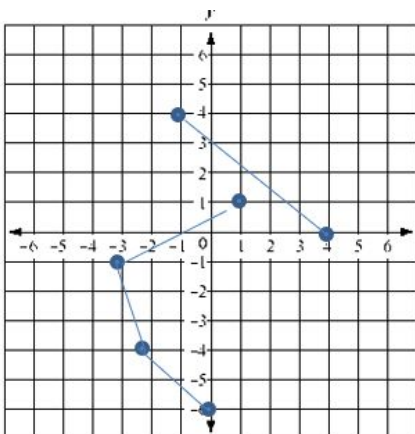
(2,1)	(1,2)
(5,-2)	(-2,5)

5.



6. **Yes this relation is a function.** Each value in the domain maps to exactly one value in the range.

7.



8. **No.** The *inverse* of the relation is not a function. In the domain of the inverse, -2 maps to both -3 and 5 in the range of the inverse.

Assignment 6

Vocabulary to know

1. Domain- the set of inputs, or the x-coordinates
2. Range - the set of outputs, or the y- coordinates
3. Inverse- the reversed order of the relation from domain to range. That is, instead of order (x,y) the inverse is (y,x) . (To find the inverse of the relation, switch the x and y coordinates.)
4. Function- a special type of relation where each input has exactly one output.
5. Relation - a rule that gives an output for every valid input
6. Vertical line test - a means of testing for a function. (If you can draw a vertical line on a graph that passes through more than one point, the relation is not a function.)

Assignment 7

5. Complete the table of values for the equation $y = 2x$.

Graph $y=2x$

x	y
-2	-4
-1	-2
0	0

1	2
2	4

You did not have to choose these x values. Plug the x values you choose into the equation $y=2x$ and then solve for y

$$y=2x$$

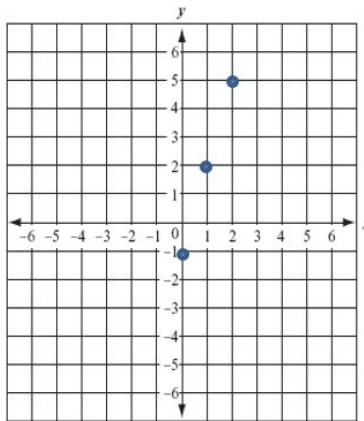
$$y=2(-2)$$

$$y= -4$$

6. Now, graph the equation by plotting the points. Unable to graph (3,8)

Graph $y=2x$

x	y
0	-1
1	2
2	5
3	8



Assignment 8

Directions: Complete the Table of Values for the equation $f(x) = 3(x) - 1$. Remember you can choose the numbers for x and that will determine the value of y .

1.

x	y
0	-1
1	2
2	5
3	8

$f(x) = 3(x) - 1$
 $f(0) = 3(0) - 1$
 $f(0) = 0 - 1$
 $f(0) = -1$ The function of 0 is -1.
 This means that x is 0 and y is -1
(0, -1)

$f(x) = 3(x) - 1$
 $f(1) = 3(1) - 1$
 $f(1) = 3 - 1$
 $f(1) = 2$ The function of 1 is 2
 x = 1 and y = 2
(1, 2)

$f(x) = 3(x) - 1$
 $f(2) = 3(2) - 1$
 $f(2) = 6 - 1$
 $f(2) = 5$ The function of 2 is 5
 x = 2 and y = 5
(2, 5)

$f(x) = 3(x) - 1$
 $f(3) = 3(3) - 1$
 $f(3) = 9 - 1$
 $f(3) = 8$ The function of 3 is 8
 x = 3 and y = 8
(3, 8)

2.

1. (0, -1)

2. (1, 2)

3. (2, 5)

4. (3, 8)

Assignment 9

1. Y-int = 18 initial velocity = 129ft/sec

m = -32 ft/sec

The speed is decreasing at 32 feet a second.

2. Fisherman in the Finger Lakes Region have been recording the dead fish they encounter while fishing the region. The Department of Environmental Conservation monitors the pollution index for the Finger Lakes Region. The model for the number of fish deaths “y” for a given pollution index “x” is $y=9.607x + 111.958$. What is the meaning of the slope? What is the meaning of the y-intercept?

What is the slope? It is $m = 9.607$. This value represents, for every increase by 1 in the input variable x, an increase of 9.607 in the output variable y.

What is the meaning of the slope? It means that, for every increase in the pollution index by one unit (say, from a pollution index of 6 to a pollution index of 7), there are nine or ten more fish deaths during the year.

Lesson 9

Language Arts, Social Studies and Science

Assignment 1

<p>In her Washington Post editorial, Keepit Slow argues that speed limits below 60 miles per hour save gas and lives. In his blog, Speed Demon says that speed limits are not necessary because he likes to drive fast, cars today are safer, and gas prices are coming down. Keep it Slow's editorial is the better of the two because she supports her claims with strong, recent evidence from reliable sources while Mr. Demon's uses only his personal experience to back up his arguments.</p> <p>In the editorial, Keep it Slow's first reason why speed limits should be below 60 miles per hour is that it saves gas. She uses <i>data from the US Department of Commerce to back her claim that driving under 60 would "save Americans 2 billion dollars a year in fuel costs."</i> She also points to a recent 2007 study by the state of Florida that showed consumers paid \$220 million dollars more per year for gas when speed limits were raised in the 1990s.</p> <p>Also, Ms. Slow shows that driving slower save lives. She uses <i>data from the National Highway Traffic Safety Administration to show that fewer people died when speed limits were lowered in the 1970s.</i> Keep it Slow also talked about a 2006 study by the Pew Trust that showed how "deaths increased by 1200 people each year for every mile per hour the speed limit was raised."</p> <p>In contrast to Keep it Slow, Speed Demon's arguments are not based on strong evidence but on his personal opinion. His biggest argument was that there should be no speed limits <i>because "dude, I just love to boogity, boogity, boogity."</i> He could provide no evidence for his claim that cars today were made better than in the past <i>beyond his phrase "everyone knows that."</i> He based his argument that gas prices were going down on the <i>price he paid when he filled up his car last week</i>, not on national studies.</p> <p>In conclusion, Keepit Slow's editorial supports her opinions by using recent facts from reliable sources. Speed Demon's blog is just his personal opinion, and he has not done any research to prove his points.</p>	<p><i>The first paragraph introduces the topic</i></p> <p><i>The thesis (argument) is in bold</i></p> <p><i>The criteria for evaluating evidence are underlined</i></p> <p><i>Specific evidence from the text is in italics</i></p> <p><i>Organization is shown through paragraph structure where first Keep it Slow's evidence is discussed and then Speed Demon's evidence is contrasted</i></p> <p><i>Transition words like also and in contrast connect paragraphs together</i></p> <p><i>Awareness of audience and purpose is shown by a conclusion which summarizes the argument</i></p>
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Assignment 2

1. C
2. E
3. D
4. A
5. C
6. D
7. B

Assignment 3: The Hubble

1. A.
2. C
3. E.
4. A
5. B
6. C
7. C

Assignment 4: Manifest Destiny

1. O’Sullivan believes America to stand for a nation of progress, of individual freedom, and of universal enfranchisement (the right to vote).
2. According to O’Sullivan America’s mission is to establish on earth the moral dignity and salvation of man—the undeniable truth and goodness of God.
3. O’Sullivan may mean that God has freely given America this land so that the growth of the people can continue.
4. According to these two articles, it seems that the American people were not entirely in favor of the manifest destiny idea. O’Sullivan encourages them “not to doubt” in “The Great Nation of Futurity”, and in “Annexation” says it is time for all opposition to stop.

Lesson 9 Math

Assignment 1

Section A

$$m = \frac{\text{the change in } y}{\text{the change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$

1. $m = \frac{\text{the change in } y}{\text{the change in } x}$	$= \frac{7 - (-5)}{-4 - 3}$	$= \frac{12}{-7}$	$= \frac{-12}{7}$
2. $m = \frac{\text{the change in } y}{\text{the change in } x}$	$= \frac{7 - (-5)}{3 - 3}$	$= \frac{12}{0}$	= undefined
3. $m = \frac{\text{the change in } y}{\text{the change in } x}$	$= \frac{-5 - (-5)}{-4 - 3}$	$= \frac{-5 + 5}{-7}$	$= \frac{0}{-7} = 0$
4. $m = \frac{\text{the change in } y}{\text{the change in } x}$	$= \frac{0 - 2}{4 - 0}$	$= \frac{-2}{4}$	$= \frac{-1}{2}$
5. $m = \frac{\text{the change in } y}{\text{the change in } x}$	$= \frac{2 - 2}{2 - 4}$	$= \frac{0}{-2}$	= 0
6. $m = \frac{\text{the change in } y}{\text{the change in } x}$	$= \frac{3 - 1}{0 - 6}$	$= \frac{2}{-6}$	$= \frac{-1}{3}$

Section B

7. $\frac{5}{3}$

8. $\frac{2}{3}$

9. $-\frac{4}{7}$

Section C

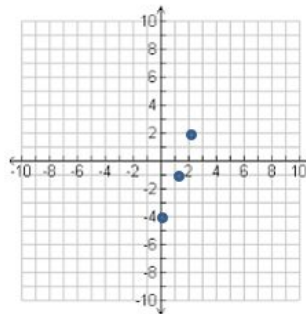
10. (0, -4) this point is the y intercept; $y = 3x - 4$

Using the slope intercept formula $y = mx + b$

The number in the **b (-4)** position is the y intercept; the y intercept is (0, -4)

The number in the **m (3)** position is the slope; the slope is $\frac{3}{1}$

- Graph the y intercept
- Graph the other points by counting up 3 and over 1



Section D

11. $y = \frac{1}{2}x + 3$

Substitute the x values into the equation and solve for y .

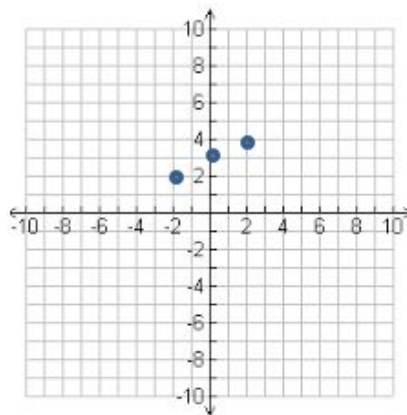
x	y
-2	2
0	3
2	4

$$y = \frac{1}{2}(-2) + 3$$

$$y = \frac{-2}{2} + 3$$

$$y = -1 + 3$$

$$y = 2$$



12. $y + 3x = -1$

Change the equation to slope intercept form.

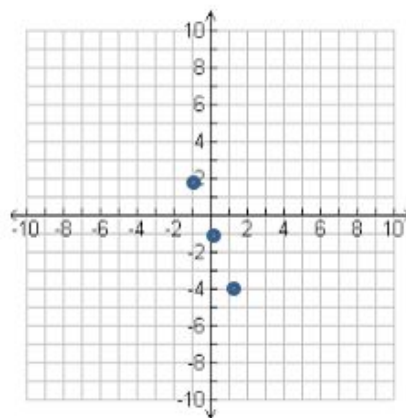
$$y = -3x - 1$$

$$y = -3(-1) - 1$$

$$y = 3 - 1$$

$$y = 2$$

x	y
-1	2
0	-1
1	-4



13. $-2 + y = -x$

Change the equation to slope intercept form.

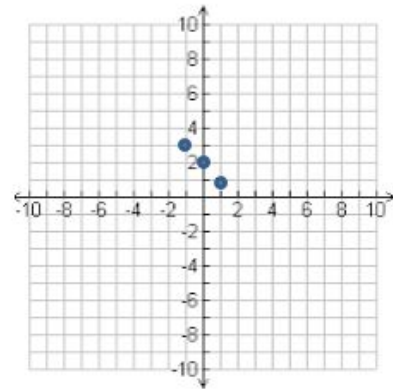
$$-2 + y = -x$$

$$y = -x + 2$$

$$y = -1 + 2$$

$$y = 1$$

x	y
1	1
2	0
3	-1



14. $y = 3 - 2x$

Substitute the x values into the equation and solve for y .

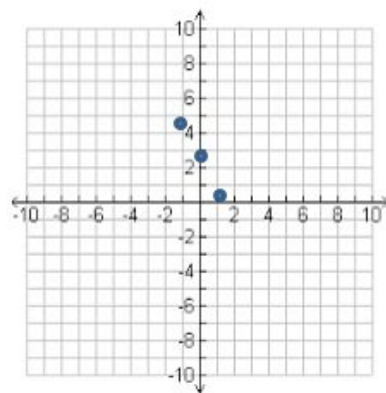
$$y = 3 - 2x$$

$$y = 3 - 2(0)$$

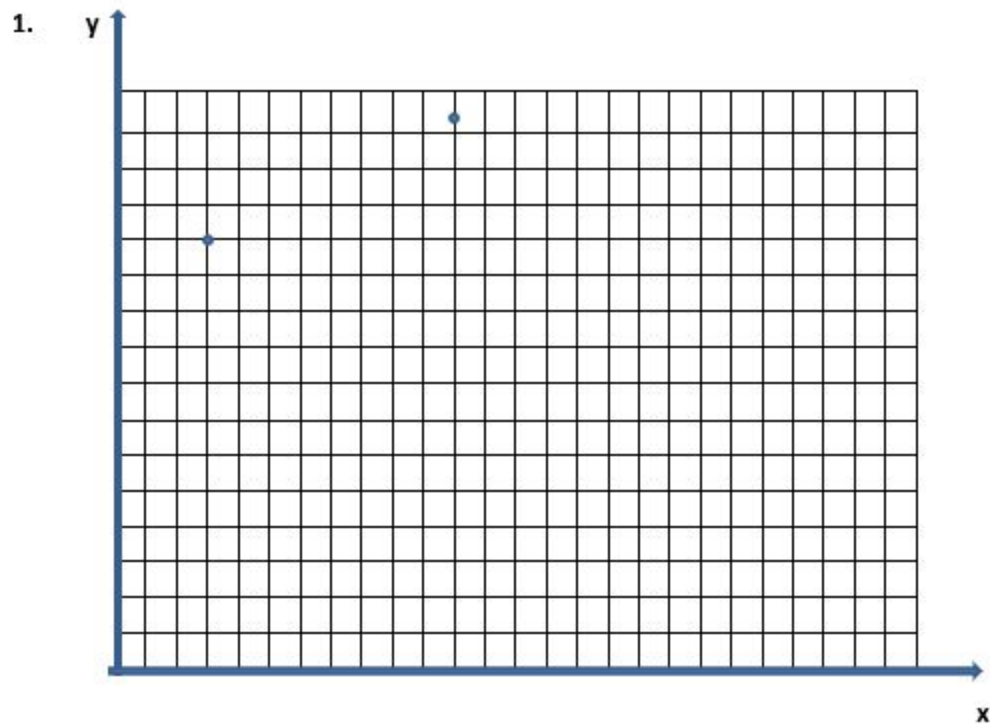
$$y = 3 - 0$$

$$y = 3$$

x	y
0	3
1	1
2	-1



Assignment 2



2. $y = 0.3x + 18.3$

Explanation: To write the equation of a line using data from the table, you use any two points from the table to find the slope of the line. For instance, you could use the points (1, 18.6) and (3, 19.2).

a. Substitute these values into the slope formula, $m = \frac{y_2 - y_1}{x_2 - x_1}$.

$$m = \frac{19.2 - 18.6}{3 - 1} = \frac{.6}{2} = 0.3$$

$$m = 0.3$$

b. Then substitute 0.3 for m and the x- and y- coordinates from one of the points in the table into the slope-intercept form of a linear equation, $y = mx + b$.

$$y = mx + b$$

$$18.6 = 0.3(1) + b$$

$$18.6 = 0.3 + b$$

$$18.6 - 0.3 = b$$

$$18.3 = b$$

Assignment 3: Pythagorean Theorem

1. $h = 14.4$

Use the formula $a^2 + b^2 = c^2$

$$\begin{aligned} 7^2 + b^2 &= 16^2 \\ 49 + b^2 &= 256 \\ b^2 &= 256 - 49 \\ b^2 &= 207 \\ \sqrt{b^2} &= \sqrt{207} \\ b &= 14.38 \\ 14.38 &\text{ - About } 14.4 \text{ rounded to} \\ &\text{the nearest 10th} \end{aligned}$$

2. $X = 10.2$ (Rounded to the nearest 10th)

3. $X = 11.8$

$$a^2 + b^2 = c^2$$

$$2^2 + b^2 = 12^2$$

$$4 + b^2 = 144$$

$$b^2 = 144 - 4$$

$$b^2 = 140$$

$$\sqrt{b^2} = \sqrt{140}$$

$$B = 11.83$$

11.83 - About 11.8 rounded to the nearest 10th

4. Yes, it is a right triangle.

$$87^2 = 60^2 + 63^2$$

$$7569 = 7569$$

The equation is balanced showing that this is a right angle

6. $x = 3067$

$$a^2 + b^2 = c^2$$

$$6370^2 + b^2 = (6370 + 700)^2$$

$$b^2 = 7070^2 - 6370^2$$

$$b^2 = 9,408,000$$

$$\sqrt{b^2} = \sqrt{9,408,000}$$

$$b = 3067.14$$

3067.14- About 3037 rounded to the nearest 10th

Assignment 4: The Distance Formula

1. 12.2 rounded to nearest tenth
2. 2.4 rounded to nearest tenth

Lesson 10 Language Arts, Social Studies, and Science

Assignment 1

1. D

Assignment 2

1. D

2. A

3. C –“the passage states that sometimes living donors can donate because it is possible to live a normal life with only one of a pair of organs,…”

4. D

Assignment 3

1. D

In the first paragraph, the author notes that fans are partially responsible for players' violent hits, writing, “the sports media and fans alike bear some of the responsibility.” This is interpreted in the final paragraph when the author writes, “Sports media producers have become accustomed to showcasing the most aggressive tackles” and “NFL broadcasts often replay especially violent collisions, while the commentators marvel at the physical prowess of the players involved.” Using this information, we can infer that the sports entertainment industry does these things to boost ratings, because fans are more likely to watch when violence is on display. If broadcasters collectively decided to stop glorifying violent tackles and fans stopped choosing programming based on them, the players would be less likely to hit each other with devastating force. Therefore, **(D)** is correct

2. C

In paragraph 2, the author writes, “the National Football League (NFL) has revised its safety regulations,” before detailing specific ways in which the NFL has tried to combat the problem of CTE. Therefore, **(C)** is correct because the author does not suggest that the NFL has done “nothing to address the problem.” In paragraph 3, the author writes, “With appropriate equipment and form, tackling need not be dangerous.” Using this information we can see that tackling can be done safely.

3. E

In paragraph 3, the author writes, “Youth, high school, and college leagues should also adopt safety rules even more stringent than the NFL’s.” The author suggests that NFL standards may protect professional players, but the regulations for amateurs are not as strict, if they exist at all, as those for professional players. Therefore, increased NFL safety standards do not directly address the injuries suffered by amateurs, who have fewer, or less strict safety regulations. This supports **option (I)**. In paragraph 3, the author writes, “at an early age athletes should be educated about the serious dangers of head injuries.” Using this information, we can see that youth are not educated properly. This supports **option (II)**. In the final paragraph, the author argues that “amateurs” are “likely to try to imitate their favorite NFL athletes” when they watch violent highlight reels on sports programs. This supports **option (III)**. Therefore, **(E)** is correct.

4. A

laudable (*adjective*): worthy of praise; commendable.

In paragraph 3, the author writes, “Efforts by the NFL and other professional sports leagues are certainly laudable; indeed, we should commend every attempt to protect the mental and physical health of players.” If we should “commend” these attempts, and another word for commend is praise, then to say that the efforts are praiseworthy (worthy of praise) is the same as saying they are laudable. Therefore, **(A)** is correct. *Ineffective* means without producing results.

5. D

An author’s tone is directly related to the language, content, and imagery of a passage. In the final paragraph, the author writes, “Players must stop being encouraged to trade their careers, health, happiness, and their lives for the sake of a game.” A solemn tone is serious. Using the above information, we sense that the author views the potential death of athletes—simply for the sake of a game—as a solemn or serious matter. The author’s tone is thus solemn, as the adamant language is used to persuade us that CTE is not just a serious threat to football players’ health, but that it could also end their lives. If we look at the syntax—the arrangement of the words—we also see a progression from the less serious (loss of career), to the most solemn consequence (death). This structure furthers the development of the solemn tone in the final paragraph. Therefore, **(D)** is correct.

6. E

exalt (*verb*): to praise or glorify something or somebody.

In the final paragraph, the author writes, “When the media exalts such hazardous behavior, professionals are rewarded for injuring each other on the field, and amateurs become more likely to try to imitate their favorite NFL athletes.” Using context, we can see that professional players are rewarded when the media exalts their hazardous behavior. We can also use the sentence immediately following it—which suggests an appropriate response—to provide context clues: “Announcers, commentators, television producers, and sportswriters should engage in a collective effort to cease glorifying brutal plays.” Using this information, we can see that the author believes that “glorifying brutal plays” needs to stop. Thus, using the information above, exalt must mean to reward or to glorify. We know that we are looking for the word that most nearly means the opposite of reward or glorify. *Criticize* means to be critical of, scold, or find flaws with, which is quite opposite of rewarding or glorifying something. Likewise, if the media were critical of the players for hitting violently, the behavior would be less likely to continue. Therefore **(E)** is correct

7. B

In the last sentence, the author urges players to stop trading “their careers, their health, their happiness, and their lives for the sake of a game.” The ideas progress from least crucial (careers) to most crucial (lives). Organizing ideas in order of ascending power or importance is called climax. Therefore, **(B)** is correct.

Questions 8,9, 10 and 11

Answers will vary. Students must write in complete sentences and show connected thought patterns.

Assignment 4

1. C
2. B
3. A
4. D

5. B

6. A

7. C

8. Suggested answer: According to Martin Luther King Jr., we need nonviolent gadflies to create the kind of tension in society that will help men rise from prejudice and racism to understanding and brotherhood.

9. Suggested answer: Martin Luther King Jr. used the example of Socrates to emphasize the point that constructive nonviolent tension is necessary for growth. Just as Socrates felt that it was necessary to create a tension in the mind so that people could rise from myths and half-truths in order to reach creative analysis and objective appraisal, Martin Luther King Jr. argues that tension must be created in society so that men will be able to rise from the depths of prejudice and racism to the heights of understanding and brotherhood. Thus, Martin Luther King Jr. notes the beliefs of Socrates regarding tension to support his argument that tension can be productive and help bring about needed change.

10. Suggested answer: It is clear that Martin Luther King Jr. perceived the nation as being in a gloomy state when he uses the phrase “our pending national elegy,” which suggests that the nation is facing a death of sorts, most likely a death of its own principals and promise. In addition, he is also critical of the national policy which he locates as being in “the quicksand of racial injustice,” which conveys the sense that this national policy is not stable or solid, as it can easily fall apart due to its racial injustice. However, Martin Luther King Jr. also seemed optimistic, giving hope that the promise of democracy can be made real and that the pending national elegy can be transformed into a creative psalm of brotherhood, as the funeral song can be transformed into a sacred song of brotherhood. Furthermore, he also states that the national policy can be lifted from the “quicksand of racial injustice” to the “solid rock of human dignity.” Hence, Martin Luther King Jr. was optimistic that the promise of democracy could be realized if the opportunity was taken to do what is right.

Sample Test Answers

1. E

2. D

3. E

- 4. A
- 5. B
- 6. B
- 7. A

Math

Assignments 1 and 2: Distributive Property Answers

- 1. $9 - 3x$
- 2. $-8 + 5n$
- 3. $-20 + 49n$
- 4. $-11 + 15x$
- 5. $-3 - 16x$
- 6. $35n + 30$
- 7. $35n - 9$
- 8. $-56x + 21$
- 9. $-7 - 6x$
- 10. $-40n + 21$
- 11. $-3 - 6n$

12.
Simplify $5 + 2\{ [3 + (2x - 1) + x] - 2\}$
 $5 + 2\{ [3 + (2x - 1) + x] - 2\}$
 $5 + 2\{ [3 + 2x - 1 + x] - 2\}$
 $5 + 2\{ [2x + x + 3 - 1] - 2\}$
 $5 + 2\{ [3x + 2] - 2\}$
 $5 + 2\{3x + 2 - 2\}$
 $5 + 2\{3x\}$
 $5 + 6x$
 $6x + 5$

Assignment 3

1. 17

2. 6

3. 15

4. 13

5. 14

6. 16

7. 4

8. 12

Assignment 4

1. $2\sqrt{7}$

2. $2\sqrt{3}$

3. $2\sqrt{5}$

4. $3\sqrt{x}$

Assignment 5

1. $\sqrt{33}$

2. $\sqrt{25} = 5$

3. $3\sqrt{6}$

4. $3\sqrt{10}$

5. $6\sqrt{7x}$

6. $6\sqrt{x}$

Assignment 6

1. $11\sqrt{2}$

2. $5\sqrt{5}$

3. $-12\sqrt{10}$

4. $5\sqrt{6}$

5. $16\sqrt{3}$

6. $4\sqrt{5}$

Sample Test Answers Needed

1. E

2. E

3. C

4. D

5. B

6. D

7. A

8. B

9. B

10. C

11. D

12.

7	0	0		
/	/	/		
.
0	●	●	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
●	7	7	7	7
8	8	8	8	8
9	9	9	9	9

	7	0	0	
/	/	/		
.
0	0	●	●	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	●	7	7	7
8	8	8	8	8
9	9	9	9	9

		7	0	0
/	/	/		
.
0	0	0	●	●
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	●	7	7
8	8	8	8	8
9	9	9	9	9

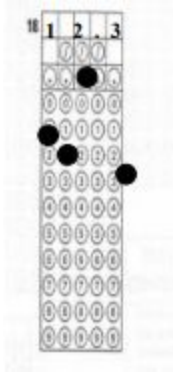
The formula for simple interest is found on the Formula page in the front of the GED Mathematics Test and at the beginning of this group of questions.

$$\text{simple interest} = \text{principal} \times \text{rate} \times \text{time}$$

$$\text{simple interest} = \$5000 \times 0.07 \times 2$$

$$\text{simple interest} = \$700$$

To show that the answer can be right-, left-, or center-justified, three acceptable griddings of this response are shown below.



13.

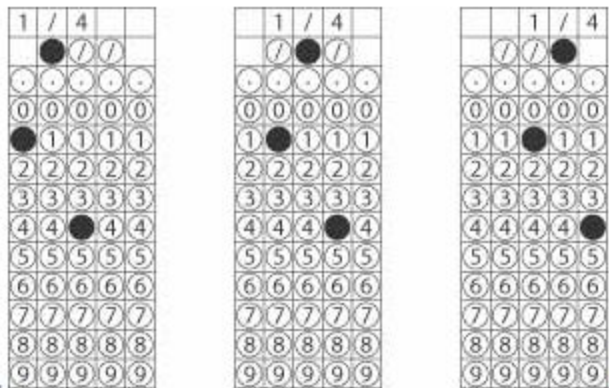
The amount of growth is the difference between this week's measurement and last week's measurement.

amount of growth = this week's measure – last week's measure

amount of growth = 28.4 – 16.1

amount of growth = 12.3 (centimeters)

One acceptable gridding of this response is shown below

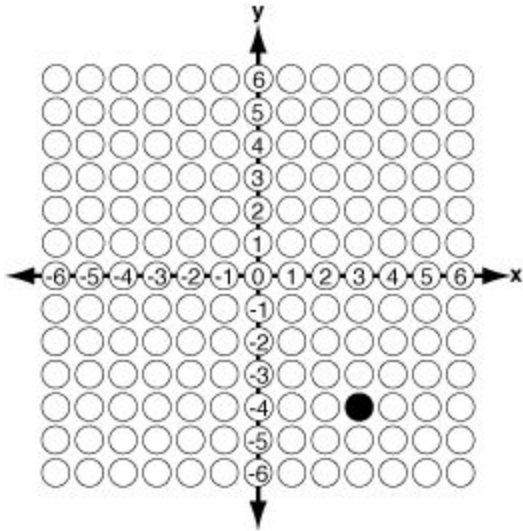


14.

Since Kyle is serving 4 from a recipe designed for 8, he needs $4/8$, or $1/2$, the amount of each ingredient. One half of $1/2$ teaspoon is found by multiplying.

$$(1/2) \times (1/2) = 1/4$$

This could be gridded using the decimal equivalent of $1/4$, namely 0.25, but the fraction is gridded below to illustrate the use of the fraction bar.



15.

The coordinates in the ordered pair are listed with the x-, or horizontal, coordinate first and the y-, or vertical, coordinate second. The point (3, -4) is located in the lower-right, or fourth, quadrant of the graph.