2017
7th Grade Practice Tests

Parent: The pages that follow are taken from the Georgia Milestones Study/Resource Guide for Students and Parents. (www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/EOG-Study-Resource-Guides.aspx) Feel free to work with your child as he/she works these items. Don't fret if your child needs help with these. Just enjoy working alongside your child.

Overview of the End-of-Grade Assessment

What is on the End-of-Grade Assessment?

- English Language Arts (ELA)
- Mathematics

TYPES OF ITEMS

- **Selected-response items – also called multiple-choice**
  - English Language Arts (ELA) and Mathematics
  - There is a question, problem, or statement that is followed by four answer choices.
  - There is only ONE right answer, so read EACH answer choice carefully.
  - Start by eliminating the answers that you know are wrong.
  - Then look for the answer that is the BEST choice.
- **Technology-enhanced items – also called multiple-select or two-part questions**
  - English Language Arts (ELA), Mathematics, Science, and Social Studies
  - There is a question, problem, or statement.
  - You may be asked to select more than one right answer.
  - You may be asked to answer the first part of the question. Then, you will answer the second part of the question based on how you answered part one.
  - Read the directions for each question carefully.
  - Start by eliminating the answers you know are wrong.
  - If the question has two parts, answer the first part before you move to the second part.
- **Constructed-response items**
  - English Language Arts (ELA) and Mathematics
  - There is a question, problem, or statement but no answer choices.
  - You have to write your answer or work out a problem.
  - Read the question carefully and think about what you are asked to do.
  - In English Language Arts (ELA), go back to the passage to look for details and information.
  - You will be scored on accuracy and how well you support your answer with evidence.
- **Extended constructed-response items**
  - English Language Arts (ELA) and Mathematics
  - These are similar to the constructed-response items.
  - Sometimes they have more than one part, or they require a longer answer.
  - Check that you have answered all parts of the question.
- **Extended writing prompt**
  - English Language Arts (ELA) only
  - There is a question, problem, or statement.
  - You may be asked to do more than one thing.
  - In English Language Arts (ELA), you will be asked to read two passages and then write an essay.
  - You will be scored on how well you answer the question and the quality of your writing.
  - Organize your ideas clearly.
  - Use correct grammar, punctuation, and spelling.
  - Support your answer with evidence from the text.

ENGLISH LANGUAGE ARTS (ELA)

- The Grade 7 English Language Arts (ELA) assessment has a total of 60 items.
- The test will be given in three sections.
  - Section will be given on Day 1. You may have up to 90 minutes to complete the section.
  - Sections 2 and 3 will be given over one or two days. You may have up to 75 minutes to complete each section.

CONTENT

The Grade 7 English Language Arts (ELA) EOG assessment will measure the Grade 7 standards that are described at www.georgiastandards.org.

The content of the assessment covers standards that are reported under these domains:

- Reading and Vocabulary
- Writing and Language

Example Item 1

Read this sentence.

> I went to the spring to get some water, and I saw a deer drinking there.

Which type of sentence is this?

  A. simple
  B. compound
  C. complex
  D. compound complex

In the following section, you will read two passages about the ongoing debate about providing food to wild birds. What are the advantages and disadvantages of feeding the birds? You will answer two questions and then write an argumentative essay supporting either side of the debate in which you argue for or against feeding the wild birds.

Before you begin planning and writing, read these two passages:

  1. **Stop Feeding Wild Birds**
  2. **For the Birds**

As you read the passages, think about what details from the passages you might use in your argumentative essay. Read these two passages about the migration of birds and answer Example Items 2 through 4.

Stop Feeding Wild Birds

Many people believe that they can do their part to help wildlife by providing food for wild birds. They believe it helps the birds become healthier and stronger and ensures they have food during times of scarcity. Often, however, this isn't the case. In natural settings, birds feed on a wide variety of foods that nature provides for them and that satisfies all their nutritional requirements. At artificial feeding sites, many birds have been found to suffer from diseases and poor nutrition. The foods many people choose to feed birds, such as bread, crackers, and popcorn, are low in protein.

Natural food locations are scattered everywhere. Birds that have to look for food on their own can easily find it in places where they can eat in relative seclusion. At artificial feeding sites, however, the birds often have to compete. Artificial feeding attracts birds in large numbers and encourages them to linger at the sites, looking for handouts rather than following their natural migration paths south. Many birds are unable to compete because the competition is too high. Furthermore, the number of birds that remain near the feeders often exceeds the natural water supplies in the area. When birds change their migration patterns or stop migrating altogether, many of them may not survive the winter. If people stopped feeding them before the time they normally migrate, the birds would have a better chance of finding natural foods and following their companions to warmer climates.

Wild birds can become dependent on the handouts. When this happens, their behaviors change. Many become aggressive as they struggle to complete for their share. Many lose their wariness of humans and eventually, their wildness.

In order to keep these creatures wild, people must stop feeding them. They can still visit sites where birds nest and enjoy these birds in their natural habitats, not in artificial ones.

For the Birds

As you learn to enjoy the beauty of birdlife around your home, you may wish to improve the habitat in your yard so that more birds will visit your property. You can attract birds by placing bird feeders, nest boxes, and birdbaths in your backyard and by planting a variety of trees, shrubs, and flowers. These can provide good nesting sites, winter shelter, places to hide from predators, and natural food supplies than are available year-round.

It doesn't matter where you live – in an apartment, a townhouse, or a single-family dwelling in the city, suburbs, or country. Just stand still, and you'll hear them – wild birds. It is hard to imagine life without them.

Bird watching is one of the fastest growing forms of outdoor recreation in the country. Each year millions of people discover for the first time the joys of bird watching. It's easy to understand why. Birds are fun to watch. And you can watch them just about everywhere. The most convenient place to start is right in your own backyard. All it takes to get their attention is food or water, a place to build a nest, and appropriate vegetation.

When you want to attract a particular bird species and keep it returning to your backyard, what you do will be determined by where you live and the time of year. When the ground is covered with snow and ice, it's hard to resist tossing seed out the door. But it's healthier for the birds to get their handouts at a feeding station, rather than off the ground. You can start simply with a piece of scrap wood elevated a few inches above the ground. Add a few holes for drainage, and you've built a platform feeder. It won't be long before the birds find it. If too many birds at your feeder become a problem, you can control the numbers by putting out smaller amounts of seed or by using specialty seeds or restrictive feeders that will attract only certain species. If you fill the feeder only when it's empty, the birds will look for food elsewhere.

Example Item 2

Which is the best definition for the phrase *relative seclusion* as it is used in these sentences from "Stop Feeding Wild Birds"?

Natural food locations are scattered everywhere. Birds that have to look for food on their own can easily find it in places where they can eat in <u>relative seclusion</u>. At artificial feeding sites, however, the birds often have to compete.

A. quiet
B. shelter
C. privacy
D. isolation

Example Item 3

Explain the difference in how the authors of "Stop Feeding Wild Birds" and "For the Birds" support their arguments about humans feeding birds.

Use details from both passages to support your answer. (For this practice, write on the back of this paper.)

<u>Example Item 4</u>

- Review the claims on both sides. Choose a side, and then write an argumentative essay supporting either side of the debate. You will argue for or against feeding wild birds.
- Be sure to use information from BOTH passages to support the side you have chosen. (For this practice, write your answer on a separate piece of paper.)

Before you write, be sure to:

- Introduce your claim.
- Support your claim with logical reasons and relevant evidence from the passages.
- Acknowledge and address alternate or opposing claims.
- Organize the reasons and evidence logically.
- Develop your ideas clearly and use your own words, except when quoting directly from the passages.
- Identify the passages by title or number when using details or facts directly from the passages.
- Use words, phrases, or clauses to connect your ideas and to clarify relationships among claims, counterclaims, reasons, and evidence.
- Establish and maintain a formal style.
- Use clear language and vocabulary.
- Provide a conclusion that supports the argument presented.
- Check your work for correct usage, grammar, spelling, capitalization, and punctuation.

Use the following passage to answer questions 5 – 9.

Around the World in Eighty Days

By Jules Verne

Mr. Phileas Fogg lived, in 1872, at No. 7, Saville Row, Burlington Gardens, the house in which Sheridan died in 1814. He was one of the most noticeable members of the Reform Club, though he seemed always to avoid attracting attention; an enigmatical[1] personage, about whom little was known, except that he was a polished man of the world. People said that he resembled Byron – at least that his head was Byronic; but he was a bearded, tranquil[2] Byron, who might live on a thousand years without growing old….

Was Phileas Fogg rich? Undoubtedly. But those who knew him best could not imagine how he had made his fortune, and Mr. Fogg was the last person to whom to apply for the information. He was not lavish, nor, on the contrary, avaricious,[3] for, whenever he knew that money was needed for a noble, useful or benevolent[4] purpose, he supplied it quietly and sometimes anonymously. He was, in short, the least communicative of men. He talked very little, and seemed all the more mysterious for his taciturn[5] manner. His daily habits were quite open to observation; but whatever he did was so exactly the same thing that he had always done before, that the wits of the curious were fairly puzzled.

Had he travelled? It was likely, for no one seemed to know the world more familiarly; there was not a spot so secluded that he did not appear to have an intimate acquaintance with it. He often corrected, with a few clear words, the thousand conjectures[6] advanced by members of the club as to lost and unheard-of travelers, pointing out the true probabilities, and seeming as if gifted with a sort of second sight, so often did events justify his predictions. He must have travelled everywhere, at least in the spirit….

Phileas Fogg was not known to have either wife or children, which may happen to the most honest people; either relatives or near friend, which is certainly more unusual. He lived alone in his house in Saville Row, whither none penetrated. A single domestic sufficed to serve him. He breakfasted and dined at the club, at hours mathematically fixed, in the same room, at the same table, never taking his meals with other members, much less bringing a guest with him; and went home at exactly midnight, only to retire at once to bed….When he chose to take a walk it was with a regular step in the entrance hall with its mosaic flooring, or in the circular gallery….When he breakfasted or dined all the resources of the club—its kitchens and pantries, its buttery and dairy—aided to crowd his table…he was served by the gravest waiters, in dress coats, and shoes with swan-skin soles…and on the finest line; …while his beverages were refreshingly cooled with ice, brought at great cost from the American lakes….

- [1]enigmatical: mysterious
- [2]tranquil: calm
- [3]avaricious: greedy
- [4]benevolent: kind
- [5]taciturn: silent
- [6]conjectures: guesses

Example Item 5

Which of these BEST describes the theme of the passage?

    A. A worldly but private man avoids dining out in public.
    B. A worldly but private man is difficult to get to know.
    C. A worldly but private man boasts about his wide travels.
    D. A worldly but private man is hiding a terrible secret.

Example Item 6

What is the MOST LIKELY reason that Phileas Fogg spends so much time alone?

    A. He is afraid of being asked for money.
    B. He has little respect for acquaintances.
    C. He feels very insecure about his appearance.
    D. He prefers his own company to that of others.

Example Item 7

What does *domestic* mean as it is used in this sentence?

> A single <u>domestic </u>sufficed to serve him.

    A. local
    B. native
    C. servant
    D. outsider

Example Item 8

This question has two parts. Answer Part A, and then answer Part B.

PART A

What conclusion about Phileas Fogg can the reader MOST LIKELY draw from the story?

    A. He follows strict routines in his daily life.
    B. He writes poetry about his world travels.
    C. He has become wealthy from investments in charities.
    D. He frequently entertains friends in his large home.

PART B

Which pair of sentences from the story BEST supports your answer in PART A?

    A. People said that he resembled Byron – at least that his head was Byronic; but he was a bearded, tranquil Byron, who might live on a thousand years without growing old . . .

It was likely, for no one seemed to know the world more familiarly; there was no spot so secluded that he did not appear to have an intimate acquaintance with it.

B. His daily habits were quite open to observation; but whatever he did was so exactly the same thing that he had always done before, that the wits of the curious were fairly puzzled.

He breakfasted and dined at the club, at hours mathematically fixed, in the same room, at the same table, never taking his meals with other members, much less bringing a guest with him; and went home exactly at midnight, only to retire at once to bed . . .

C. He was one of the most noticeable members of the Reform Club, though he seemed always to avoid attract attention; an enigmatical personage, about whom little was known, except that he was a polished man of the world.

He was not lavish, nor, on the contrary, avaricious; for, whenever he knew that money was needed for a noble, useful, or benevolent purpose, he supplied it quietly and sometimes anonymously.

D. He often corrected, with a few clear words, the thousand conjectures advanced by members of the club as to lost and unheard-of travelers, pointing out the true probabilities, and seeming as if gifted with a sort of second sight, so often did events justify his predictions.

When he breakfasted or dined all the resources of the club- its kitchens and pantries, its buttery and dairy-aided to crowd his table.

Example Item 9

The story was written using the third-person point of view. How would the excerpt be different if Phileas Fogg were narrating? Rewrite the beginning of the story from Phileas Fogg's perspective. (For this practice test, write your answer on the back of this paper.)

IN THIS SECTION, YOU WILL READ TWO PASSAGES AND ANSWER QUESTIONS 10 THROUGH 13.

There is a conflict between animal activists concerned with marine life and other users of the planet's oceans. What are the dangers of underwater noise on certain species like whales?

Review the claims on both sides. Choose a side, and then write an *argumentative essay* supporting either side of the debate. You will argue that underwater noise affects certain species like whales OR that underwater noise has no effect on marine life.

Be sure to use information from BOTH passages to support the side you have chosen.

Before you begin planning and writing, you will read two passages and answer three questions about what you have read. As you read the passages, think about what details from the passages you might use in your argumentative essay. These are the titles of the texts you will read:

1. What to Do about Underwater Noise
2. What Underwater Noise?

What to Do about Underwater Noise

What to Do about Underwater Noise Anyone who lives in a busy city knows that the world is a noisy place. We humans rely on many machines—planes, cars, trains, construction and farming machinery, and machines in factories—to make modern life happen. As it turns out, we make a racket on land and in the ocean. Our boats, oil drilling equipment, and military sonar activities generate all kinds of noise. Some scientists have become concerned that underwater noise is negatively affecting sea life, particularly whales. In recent years, studies of the impact of underwater noise have been completed, and the results are mixed. Neither side—not the environmentalists who want to protect marine life, nor the Navy, which conducts sonar tests for our national defense—is convinced of the right thing to do.

Some environmentalists are concerned that underwater noise has a negative impact on certain species, particularly beaked whales. Whales communicate with each other by sending out sound waves. Scientists suspect that the increase in underwater noise has interfered with the whales' ability to "hear" one another. They also are concerned that high levels of underwater noise upset the whales. Like humans, whales might also enjoy some peace and quiet. But where can they go? To find out how noise affects whales, scientists attached digital recording devices to beaked whales, pilot whales, and melon-headed whales during a two-year period. These devices measured the sounds the whales made and also tracked their movements. This allowed scientists to determine how the whales reacted when they were in noisy environments. The data suggested that beaked whales were especially sensitive to even low levels of underwater noise. It interrupted their communications and caused them to change their diving and feeding patterns. The results suggested clearly that we should change our attitude toward underwater noise if we want our whale populations to survive.

Should we reduce our underwater activities? Or should we keep doing what we've been doing and hope for the best? We should cut back on underwater noise so that the animals of the sea can thrive. The obvious answer is to err on the side of caution and limit underwater noise.

What Underwater Noise?

Many studies have been conducted to determine whether underwater noise negatively affects sea life. One study concluded that sonar activity and other noises caused beaked whales to change their behaviors. Another study showed there was no such effect.

The United States Navy is also concerned about the issue of underwater noise. The Navy uses sonar, a system of using sound waves to detect objects underwater, as a tool to gather information about our oceans and protect the nation. If that tool were causing harm to the creatures of the sea, then the Navy would want to know it.

The issue became critical after an incident in 2000 in which 17 whales became stranded in the Bahamas. It was thought at the time that the use of Navy sonar nearby was the cause. The Navy collaborated with well-known marine scientific organizations to conduct a study. The researchers attached recording tags to different whales in order to track their activity. Unlike previous studies, researchers also generated specific sounds—sonar pings and the calls of other sea creatures. Then they measured the whales' reactions. At first, some of the beaked whales responded cautiously to the noises, but they did not change their overall behavior. Nor did the other types of whales in the study react fearfully. The Navy concluded that even high levels of sonar and other underwater noise did not affect underwater creatures. As a result, the Navy has argued that it should be allowed to continue its sonar activities in the world's oceans.

While everyone will probably sleep better if there is less noise in the world, the soundness of the U.S. Navy study is also comforting. Underwater noise has no negative impact on marine life.

Example Item 10

Which sentence should be added to the final paragraph of "What to Do about Underwater Noise" to show that the writer acknowledges an opposing opinion?

A. To cause the suffering of numerous whales and other sea creatures would be a crime.
B. To let things remain as they are might be the best course of action given the evidence.
C. To continue studying the effects of underwater noise is just a waste of time and money.
D. To ignore the studies that show underwater noise does have an impact is perhaps selfish.

Example Item 11

Which sentence BEST supports the Navy's claim in "What Underwater Noise?" about the impact of sonar on certain whales?

A. Some whales initially reacted negatively to nearby sonar activity.
B. No whales changed their overall behaviors in response to sonar activity.
C. Beaked whales changed their feeding patters in response to sonar activity.
D. All whales use sound waves to communicate with one another over distances.

Example Item 12

Read this sentence from the passage "What Underwater Noise?"

> One study concluded that sonar activity and other noises caused beaked whales to change their behaviors.

Is this sentence from "What Underwater Noise?" relevant to the author's main argument?

Use details from the passage to support your response. Write your answer on the back of this page.

Example Item 13

Now that you have read "What to Do about Underwater Noise" and "What Underwater Noise?" and answered some questions about what you have read, create a plan for and write your argumentative essay.

> **There is a conflict between animal activists concerned with marine life and other users of the planet's oceans. What are the dangers of underwater noise on certain species like whales?**
>
> **Review the claims on both sides. Choose a side, and then write an *argumentative essay* supporting either side of the debate. You will argue that underwater noise affects certain species like whales OR that underwater noise has no effect on marine life.**
>
> **Be sure to use information from BOTH passages to support the side you have chosen.**
>
> **Write your essay on a separate piece of paper.**

Be sure to:

- Introduce your claim.
- Support your claim with logical reasons and relevant evidence from the passages.
- Acknowledge and address alternate or opposing claims.
- Organize the reasons and evidence logically.
- Develop your ideas clearly and use your own words, except when quoting directly from the passages.
- Identify the passages by title or number when using details or facts directly from the passages.
- Use words, phrases, or clauses to connect your ideas and to clarify the relationships among claims, counterclaims, reasons, and evidence.
- Establish and maintain a formal style.
- Use clear language and vocabulary.
- Provide a conclusion that supports the argument presented.
- Check your work for correct usage, grammar, spelling, capitalization, and punctuation.

Example Item 14

The sentence below has a spelling error.

> In the <u>laboratory</u>, we set up the <u>apparatus</u> <u>efficiently</u> in <u>aproximately</u> 10 minutes.

Which word is NOT spelled correctly?

- **A.** laboratory
- B. apparatus
- C. efficiently
- D. aproximately

Example Item 15

Based on the word parts, what is the meaning of *universal* in the sentence?

> They want to know why some stories receive <u>universal</u> acceptance, and others do not.

- **A.** possible
- **B.** regular
- **C.** common
- **D.** serious

Example Item 16

Which sentence uses commas correctly?

- **A.** She was happy with the quick, satisfying results.
- **B.** The group decided to stage the old, original, play.
- **C.** They painted the old barn with a bright, red paint.
- **D.** We went to the beach and built a sturdy, sand tower.

Example Item 17

Which sentence contains an error between the relationship of ideas?

- **A.** Coming home late, they went straight to bed.
- **B.** Walking in the door, the lights were turned on.
- **C.** Without being warned, we heard them yell, "Surprise!"
- **D.** Showing up late is still better than not showing up at all.

English Language Arts (ELA) Answer Key

1. B
2. C
3. Writing Task
4. Writing Task
5. B
6. D
7. C
8. Part A: A / Part B: B
9. Writing Task
10. D
11. B
12. Writing Task
13. Writing Task
14. D
15. C
16. A
17. B

MATHEMATICS

- The Grade 7 Mathematics EOG assessment consists of a total of 73 items.
- The test will be given in two sections.
    - You will have up to 85 minutes per section to complete Sections 1 and 2.
    - The test will take about 120 to 170 minutes.

Content

The Grade 7 Mathematics EOG assessment will measure the Grade 7 standards that are described at www.georgiastandards.org.

The content of the assessment covers standards that are reported under these domains:

- Ratios and Proportional Relationships
- The Number System
- Expressions and Equations
- Geometry
- Statistics and Probability

Item Types

The Mathematics portion of the Grade 7 EOG assessment consists of selected-response (multiple-choice), technology-enhanced (multiple-select or two-part), constructed-response, and extended constructed-response items.

Example Item 1

$(2)(18) \div (-2 + 5)(-1)$

A. -13
B. -12
C. 12
D. 13

Example Item 2

A football team loses 5 yards on each of 3 consecutive plays.

Part A: What signed number represents the team's total loss of yards on the 3 plays?

_____

Part B: Explain how you found your answer?

_____
_____
_____

Example Item 3

The selling price of a house dropped from $250,000 to $210,000 over a period of 5 years.

Part A: By what percent did the selling price decrease?

_____%

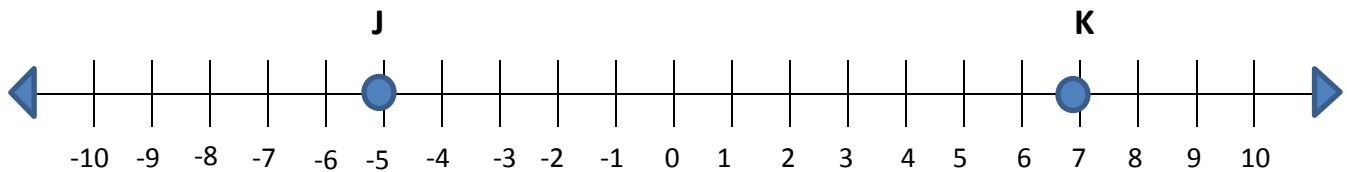Part B: Explain how you found your answer?

_____
_____
_____

Part C: By what percent does the price need to increase in order to return to its original value of $250,000?

_____%

Part D: Explain how you found your answer.

_____
_____
_____

Example Item 4

John and Kamira are playing a game. John's score (J) and Kamira's score (K) after round 1 are shown on the number line.

The score recorded at the end of the first round is 2. What could this score represent?

    A. The sum of John's score and Kamira's score.
    B. The difference between John's score and Kamira's score.
    C. The absolute value of the difference of John's score and Kamira's score.
    D. The sum of the absolute value of John's score and the absolute value of Kamira's score.

Example Item 5

What is the value of $4.2(46 - 65)$?

    A. -798
    B. -79.8
    C. 79.8
    D. 798

During one week, Sheila made several changes to her bank account. She made four withdrawals of $40 each from an ATM. She also used her check card for a $156 purchase. Then she deposited her paycheck of $375.

By how much did the amount in her bank account change during that week?

   A. $59 increase
   B. $59 decrease
   C. $691 increase
   D. $691 decrease

Example Item 7

Consider the expression: $6r – r + 8(15 – r) + 23 – 6$.

Part A: Is -3r + 137 equivalent to the given expression. _____

Part B: Explain how you determined whether the expressions are or are not equivalent.

_____
_____
_____

Example Item 8

Which expression is equivalent to -7(y – 2) ?

   A.   -7y – 2
   B.   -7y + 2
   C.   -7y – 14
   D.   -7y + 14

Example Item 9

A furniture store sells kits that customers use to build cabinets. Each kit contains 18 screws and a set number of boards.

PART A

Jarred buys 6 of these kits and has a total of 192 screws and boards. The equation shown represents this situation.

$$6(x + 18) = 192$$

What does the variable x represent in Jarred's equation?

   A.   The number of screws in one kit.
   B.   The number of screws in all 6 kits.
   C.   The number of boards in one kit.
   D.   The number of boards in all 6 kits.

PART B

What is the value of *x* in Jarred's equation?

    A. 11
    B. 14
    C. 29
    D. 35

<u>Example Item 10</u>

Julie works Sunday, Monday, and Wednesday for 10 hours each day. On Tuesday, Thursday, and Friday, she works 7 hours each day. She does not work on Saturday. Her weekly total earnings are $612.

Part A: What is her hourly rate of pay? - $_____

Part B: Julie's manager proposes a new pay rate. The manager says Julie can get paid twice her hourly rate for working any hours over 8 in a day. What would be her weekly earnings using this method of payment? Explain how you found her total earnings using this method. - $_____

_____
_____
_____

Part C: Julie thinks she can earn more money if she is paid 1 ½ times her hourly rate for any hours over 40 in her weekly total. Which method of payment, Julie's or her manager's, would give Julie higher weekly earnings? Explain your reasoning.

_____
_____
_____

<u>Example Item 11</u>

The average rate of hair growth is 2.5 centimeters every 2 months.

At that rate, how many months will it take to grow 22.5 centimeters of hair?

    A. 9 months
    B. 11 ¼ months
    C. 18 months
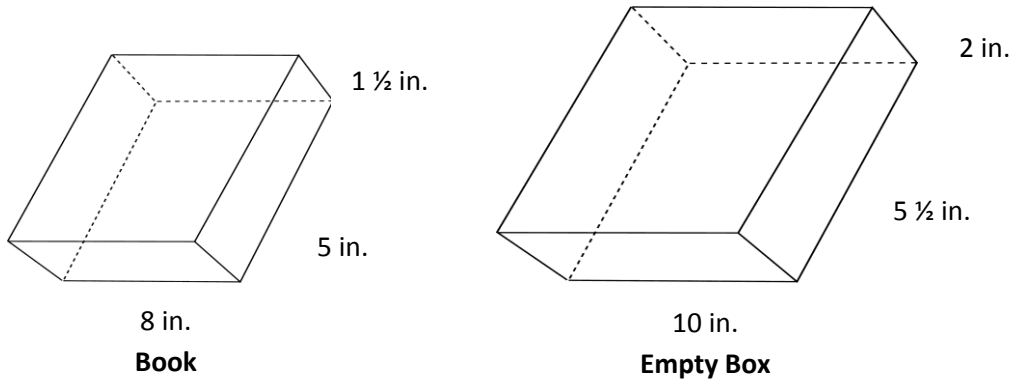   **D.** 28 1/8 months

<u>Example Item 12</u>

A bicycle training wheel has a radius of 3 inches. The bicycle wheel has a radius of 10 inches. Approximately how much smaller, in square inches, is the area of the training wheel than the area of the regular wheel?

    A.   21.98 in^2
    B.   153.86 in^2
    C.   285.74 in^2
    D.   1,142.96 in^2

<u>Example Item 13</u>

Lequan is giving a book as a gift. She will put the book in a box and wrap it. Both the book and box are shaped like rectangular prisms with the dimensions shown in the diagrams.

1 ½ in.

2 in.

5 ½ in.

5 in.

8 in.
Book

10 in.
Empty Box

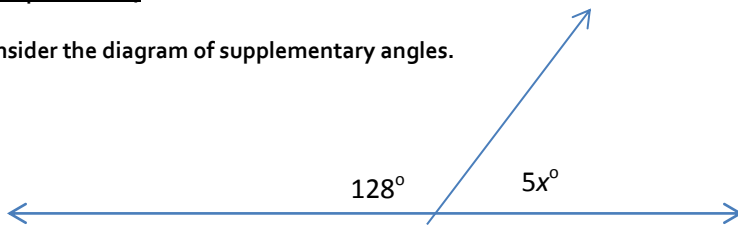Part A: How much empty space will be in the box after Lequan puts the book inside it?

_____cubic inches

Part B: What is the minimum amount of wrapping paper needed to completely cover the outside of the box?

_____square inches

<u>Example Item 14</u>

Consider the diagram of supplementary angles.

128°   5x°

What is the value of x?

    A.   10.4
    B.   52
    C.   61.6
    D.   92

<u>Example Item 15</u>

A gym teacher at Jackson High School wants the school to have a new team sport: soccer, lacrosse, or rugby. She will take a survey to determine which of those sports most students prefer. Which population would provide a random sampling for the gym teacher to use?

    A. all students at the school who are sixteen years old
    B. all students who buy lunch at the school on Friday
    C. half of the students who play on team sports at the school
    D. every third student arriving at school

<u>Example Item 16</u>

Listed below are the quiz scores for randomly selected students in two seventh-grade classes.

                Class A: 99, 75, 84, 70, 86, 80
                Class B: 85, 83, 87, 90, 85, 82

PART A
Based on the samples, which class generally has higher quiz scores?

Answer: _____

PART B
Use measures of center and/or variability to justify your answer. (Use the back of this paper for your answer.)

<u>Example Item 17</u>

PART A

A cube numbered from 1 through 6 is rolled 300 times. The number 6 lands face-up on the cube 32 times.

What is the closest estimate for the experimental probability of 6 landing face-up on the cube?

    A. 0.087
    B. 0.107
    C. 0.127
    D. 0.188

PART B

A cube numbered from 1 through 6 is rolled 400 times. The probability of 3 landing face-up on the cube is $\frac{1}{6}$.

Select TWO values that indicate an approximate relative frequency of 3 landing face-up in 400 attempts.

    A. 24
    B. 64
    C. 70
    D. 200
    E. 240

Mathematics Answer Key

1. B
2. Part A: -15 yards
   Part B: I multiplied 3 X -5. I used a number line to show the multiplication by starting at 0 and moving 5 places to the left 3 times.
3. Part A: 16%
   Part B: I subtracted the new price from the original price and divided the difference by the original price. Then I multiplied the decimal product by 100 and removed the negative sign to write the percent decrease.
   Part C: Approximately 19%
   Part D: I divided the difference in the two prices by the new one. Then I multiplied the decimal product by 100 to write the percent increase.
4. A
5. B
6. A
7. Part A: Yes
   Part B: I combined like terms in the given expression. The result was the expression in Part A. I also substituted the same value for the variable into both expressions and it always resulted in the same answer.
8. D
9. Part A: C
   Part B: B
10. Part A: $12
    Part B: $684 - Julie works a total of 51 hours a week. On 3 days she works more than 8 hours. On each of those days, she works for 10 hours, which makes a total of 6 extra hours each week. Twice her hourly rate is $24, so she would earn $144 extra each week. She would earn 12 per hour for the other 45 hours, for a total of $540. So her weekly total is the sum of $540 and $144, which is $684.
    Part C: The manager's method. Since Julie works 51 hours a week, then she works 11 extra hours and would earn $18 per hour for each of those extra hours, for a total of $198. She would earn 12 per hour for her regular 40 hours, for a total of $480. So her weekly total is the sum of $480 and $198, which is $678. ($6 less than the manager's method).
11. C
12. C
13. Part A: 50
    Part B: 172
14. A
15. D
16. Part A: Class B
    Part B: Class B has a higher mean score and a smaller range than Class A. Therefore, in general, Class B has higher scores
17. Part A: B
    Part B: B and C