Release of November 2011 MCAS Retest Items

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Massachusetts Department of Elementary and Secondary Education
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Commissioner’s Foreword

Dear Colleagues:

The Massachusetts Department of Elementary and Secondary Education is committed to working in partnership with policymakers, communities, parents, school districts, and students to build a system that will prepare all students to succeed as productive and contributing members of our democratic society and the global economy. To assist in achieving this goal, the Department regularly releases MCAS test items to provide information regarding the kinds of knowledge and skills that students are expected to demonstrate. I am pleased to announce that all questions from the November 2011 retests are included in this document.

The Release of November 2011 MCAS Retest Items is available only through the Department website at www.doe.mass.edu/mcas/testitems.html. The test items for both ELA and Mathematics can be easily printed from this site. I encourage educators to use the relevant sections of this document together with their Test Item Analysis Rosters as guides for planning changes in curriculum and instruction that may be needed to support schools and districts in their efforts to improve student performance.

Thank you for your support as we work together to strengthen education for our students in Massachusetts.

Sincerely,

Mitchell D. Chester, Ed.D.
Commissioner of Elementary and Secondary Education
I. Document Purpose and Structure
Document Purpose and Structure

Purpose

The purpose of this document is to share with educators and the public all of the test items from the November 2011 MCAS English Language Arts and Mathematics Retests. Local educators will be able to use this information to identify strengths and weaknesses in their curriculum and to plan instruction to more effectively meet their students’ individual needs.

This document is also intended to be used by school and district personnel as a companion document to the test item analysis reports. Each school in which a retest was administered can access electronically a November Retest Test Item Analysis Roster for English Language Arts and Mathematics. The rosters provide data generated from student responses. Each roster lists, for the school accessing the roster, the names of all enrolled students who took the November 2011 Retest in that roster’s content area, and shows how each student answered each test question (item) and the number of points earned on each open-response item. The rosters also label each item as multiple-choice, open-response, short-answer, or writing prompt and identify the item’s MCAS reporting category. Item numbers in this document correlate directly to the “Item Numbers” in the test item analysis roster.

Structure

Chapters II and III of this document contain, respectively, information for the November 2011 English Language Arts and Mathematics Retests. Each of these chapters has three main sections.

The first section introduces the chapter by listing the Massachusetts curriculum framework content strands assessed by MCAS in that chapter’s content area. These content strands are identical to the MCAS reporting categories under which retest results are reported to schools and districts. The first section also provides the Web address for the relevant framework and the page numbers on which the learning standards assessed by the test items in the chapter can be found. In addition, there is a brief overview of the retest (number of test sessions, types of items, reference materials allowed, and cross-referencing information).

The second section contains the test items used to generate November 2011 MCAS student results for that chapter’s content area. With the exception of the ELA Composition writing prompt, the test items in this document are shown in the same order and basic format in which they were presented in the test booklets. The Mathematics Reference Sheet used by students during MCAS Mathematics test sessions is inserted immediately following the last question in the Mathematics chapter.

Due to copyright restrictions, certain ELA reading passages are not available on the Department’s website. Copyright information for all reading passages is provided in the document. Note that the Department has obtained permission to post all ELA passages that appear on its website. While the Department grants permission to use the posted test items for educational purposes, it cannot grant or transfer permission to use the passages that accompany the items. Such permission must be obtained directly from the holder of the copyright. For further information, contact Student Assessment Services at 781-338-3625.

The final section of each chapter is a table that cross-references each item with its MCAS reporting category and with the framework standard it assesses. Correct answers to multiple-choice questions and Mathematics retest short-answer questions are also listed in the table.
Materials presented in this document are not formatted exactly as they appeared in student test booklets. For example, in order to present items most efficiently in this document, the following modifications have been made:

- Some fonts and/or font sizes may have been changed and/or reduced.
- Some graphics may have been reduced in size from their appearance in student test booklets; however, they maintain the same proportions in each case.
- All references to page numbers in answer booklets have been deleted from the directions that accompany test items.
- The four lined pages provided for students’ initial English Language Arts Composition retest drafts are omitted.
II. English Language Arts Retest

A. Composition
B. Reading Comprehension
English Language Arts Retest

Test Structure

The English Language Arts retest was presented in the following two parts:

- the ELA Composition retest, which used a writing prompt to assess learning standards from the Massachusetts English Language Arts Curriculum Framework’s Composition strand
- the ELA Reading Comprehension retest, which used multiple-choice and open-response questions (items) to assess learning standards from the English Language Arts Curriculum Framework’s Language and Reading and Literature strands

A. Composition

The English Language Arts (ELA) Composition retest was based on learning standards in the Composition strand of the Massachusetts English Language Arts Curriculum Framework (2001). These learning standards appear on pages 72–83 of the Framework, which is available on the Department website at www.doe.mass.edu/frameworks/current.html.

ELA Composition retest results are reported under the Composition reporting category.

Test Sessions and Content Overview

The ELA Composition retest included two separate test sessions, administered on the same day with a short break between sessions. During the first session, each student wrote an initial draft of a composition in response to the writing prompt on the next page. During the second session, each student revised his or her draft and submitted a final composition, which was scored in the areas of Topic Development and Standard English Conventions. The Scoring Guides for the MCAS English Language Arts Composition are available at www.doe.mass.edu/mcas/student/elacomp_scoreguide.html.

Reference Materials

At least one English-language dictionary per classroom was provided for student use during ELA Composition retest sessions. The use of bilingual word-to-word dictionaries was allowed for current and former English language learner students only. No other reference materials were allowed during either ELA Composition retest session.

Cross-Reference Information

Framework general standards 19–22 are assessed by the ELA Composition.
WRITING PROMPT

Often in works of literature, a character is punished or rejected for being different.

From a work of literature you have read in or out of school, select a character who is punished or rejected for being different. In a well-developed composition, identify the character, describe how the character is punished or rejected for being different, and explain how the character’s experience relates to the work as a whole.
B. Reading Comprehension

The English Language Arts Reading Comprehension retest was based on learning standards in the two content strands of the Massachusetts English Language Arts Curriculum Framework (2001) listed below. Page numbers for the learning standards appear in parentheses.

- Language (Framework, pages 19–26)
- Reading and Literature (Framework, pages 35–64)

The English Language Arts Curriculum Framework is available on the Department website at www.doe.mass.edu/frameworks/current.html.

ELA Reading Comprehension retest results are reported under two MCAS reporting categories: Language and Reading and Literature, which are identical to the two framework content strands listed above.

Test Sessions

The ELA Reading Comprehension retest included three separate test sessions. Sessions 1 and 2 were both administered on the same day, and Session 3 was administered on the following day. Each session included selected readings, followed by multiple-choice and open-response questions. Reading passages and test items are shown on the following pages as they appeared in test booklets. For further information, contact Student Assessment Services at 781-338-3625.

Reference Materials

The use of bilingual word-to-word dictionaries was allowed for English language learner students only, during all three ELA Reading Comprehension sessions. No other reference materials were allowed during any ELA Reading Comprehension retest session.

Cross-Reference Information

The table at the conclusion of this chapter indicates each item’s reporting category and the framework general standard it assesses. The correct answers for multiple-choice questions are also displayed in the table.
Some things in life are best left unexplained. Ashrita Furman is one of them. This man is an athletic phenomenon whose ability is exceeded only by his imagination.

—JUST FOR THE RECORD (AUSTRALIAN TELEVISION)

I’m trying to show others that our human capacity is unlimited if we can believe in ourselves. I hope that after reading this you are inspired to attempt some feat of your own. The particular event is unimportant as long as it gives you the opportunity to dance on the edge of your capacity. But be prepared—the benefits could be both illuminating and far reaching.

—ASHRITA FURMAN, IN HIS ONLINE BLOG

For proof of the old adage “truth is stranger than fiction,” one need look no farther than Ashrita Furman. If Ashrita did not exist, the marketing folks at Guinness World Records would have to invent him—but even the most imaginative ad person could not conjure up a character like Ashrita, who has now been intimately involved with the book for far longer than any of its staff. In the thirty years since he began breaking Guinness World Records, the men who invented the book have all passed away, its editors have come and gone, the book itself has been bought and sold and sold again, and throughout all of these changes, during the Age of Ashrita it has become the bestselling copyrighted book in world history, and by some accounts the second most widely read book of all time—behind only the Bible.

Fortunately for the more than 110 million readers who have purchased a copy of the Guinness World Records, Ashrita does exist, and no one in the book’s half-century has had the kind of impact on its pages that he has or has done more to spread its gospel. Furman was once just like the millions of other preteens who buy the book every year and have made it an annual New York Times best seller for decades. Like his peers, Ashrita studied its pages, and pored over images that are now iconic to generations of readers: pictures of the tallest and shortest and fattest men and women, those with the longest beards, mustaches, and fingernails. Like most kids, Ashrita dreamed of being in its pages, but unlike most kids he has lived
out that dream to epic proportions. After a life-changing revelation, Ashrita got his own picture into the book in 1979 and has never slowed down since, continuing to get into Guinness at a frenetic pace with increasingly bizarre feats of stamina, strength, and creativity. Ashrita Furman is “The Book” taken to its logical, if such a word can be used in the same breath as Guinness World Records, extreme, the mother of all record breakers. Paradoxically, he began as a contemporary reflection of the book, part of its target audience, and thirty years later, the book has become a contemporary reflection of Ashrita: its focus has dramatically turned toward him and his kin, featuring more and more self-invented records, which in many cases seem as difficult to think up as to execute. More than anyone else, Ashrita helped turn the Guinness World Records book from something people simply read to something tens of thousands of people each year strive to get into, and he has done so with his own unique and appealing style. By taking every child’s fascination with the book and marrying this passion to the fervor of a religious zealot, then sprinkling in his sense of humor and showmanship, this soft-spoken man from Queens, New York, has become nothing less than the greatest Guinness record holder of all time.

Yet despite all his success, he remains a humble servant of God. “People magazine called me to be on their fifty most eligible bachelors’ list,” Ashrita, who has taken a pledge of celibacy, told the New York Times. “I told them, ‘There’s only one problem: I don’t date.’” The celibate vegetarian has also never driven a car (though he holds a record for pushing one). He has lived in the same apartment, with few possessions, for most of the last thirty years. Even his stack of Guinness World Records certificates, the largest such collection outside of the company’s headquarters, sits on the floor of his closet in a modest pile. The only one he has on display is his 100th, a special certificate the book made him to honor the accomplishment, the only one of its kind ever printed.

“Ashrita is by far the most prolific record breaker,” Stewart Newport told the New York Times. Newport is the book’s longtime Keeper of the Records, the lofty title the English concern bestows upon its top rules official. As of January 2008, Furman held seventy-two current records, his most recent being part of a group effort: he and an international team with members from fifteen different countries, all motivated by their extreme religious devotion, spent two weeks constructing the world’s largest pencil. They shaped 8,000 board feet of wood and 4,500 pounds of graphite into a seventy-five-foot-long, ten-and-a-half-ton writing instrument, an anachronism* in this increasingly digital age. “It wasn’t easy,” Ashrita wrote, not on a giant legal pad but on his blog. “We had to make the pencil to scale, it had to look precisely like a normal pencil and it had to be made out of the same materials . . . we even manufactured a 250-pound eraser.” Those seventy-two records are just the ones he still claims, but overall Ashrita has set or broken 177 Guinness World Records in his lifetime, far more than anyone in history. More than twice as

* anachronism — something that is out of its proper time
many, in fact: in 2003 he reached one of his many Guinness milestones when he passed legendary Russian weight lifter Vasily Alekseyev, the previous champion of champions, who had set eighty records in his vaunted career. To match Alekseyev’s lifelong tally, Ashrita demonstrated patience, stamina, and above all, stability, when he stood balanced on an inflatable exercise ball for two hours, sixteen minutes, and two seconds at England’s mystic Stonehenge. Shortly thereafter, he moved into uncharted territory with his eighty-first world record, this one for the fastest full marathon ever completed by someone skipping the entire way, covering the 26.2-mile course in five hours and fifty-five minutes—and in decidedly childlike fashion. For the five years since he passed Alekseyev, Ashrita has stood alone atop the record world.

Like his many incredible feats, Ashrita himself defies generalization. On one level he is reminiscent of a ski bum, except that he gets his adrenaline rush from breaking and setting records. Like the ski bum, Ashrita has structured his life and work in large part around breaking and setting Guinness World Records, and this enthusiasm has taken him not just to Stonehenge but to all corners of the globe.

On another level, one could argue quite seriously that Ashrita is among the world’s greatest athletes. Among Olympians, the decathlon is viewed as the premier athletic event, and the best decathlete is widely touted as the world’s greatest athlete. If excelling in just ten disciplines warrants such respect, why not give credit to a man who is the very best in dozens of them? Ashrita has been called many things in his illustrious career, but the one nickname that has stuck is Mr. Versatility, the superhero alter ego that many fans know him by (yes, he does have fans). Even if you throw out some of Ashrita’s more ridiculous specialties, like finger snapping, frog hopping, or egg balancing, he has more than enough records that are truly astonishing feats of strength, speed, and endurance to put the best decathlete to shame. Ashrita sternly maintains that while some of his records may draw more laughter than respect, each and every one requires a commitment to excellence and a great deal of determination, concentration, and fitness. At age fifty-four, when almost all competitive athletes are retired, Ashrita is at the height of his game, still breaking records at a staggering pace: he bagged more than thirty dozen in 2006 alone, his best year ever. Despite his frenetic pace over the past two years, averaging one record every ten days, Ashrita’s passion has never waned, and he says, “What I love about the Guinness Book is that I can just go through it and choose something that I’ve never done before, train for it, and become the best in the world at that event.”
Reading Comprehension

1. Based on paragraph 1, why would the marketing people at Guinness World Records want to “invent” Furman if he did not exist?
   A. He devotes time to various charities.
   B. His religious devotion has affected many people.
   C. His many accomplishments are perfect publicity for the book.
   D. He is more recognizable than anyone who has appeared in the book.

2. Based on paragraph 2, how has Furman changed people’s perceptions of the book Guinness World Records?
   A. Many people now think they can set records of their own.
   B. Many people believe the book has become too vulgar.
   C. Many people believe the records have become silly.
   D. Many people now think the book is better written.

3. What irony does the author emphasize in paragraph 3?
   A. Furman has broken many records but has received only one certificate.
   B. Furman has broken many records but few are significant.
   C. Furman is outgoing but rarely leaves his apartment.
   D. Furman is well known but lives a very modest life.

4. Based on his quote at the end of paragraph 6, what does Furman most enjoy about being a record breaker?
   A. the constant travel
   B. the variety of challenges
   C. the money he has earned
   D. the friendships he has made
Based on the excerpt, what do Furman’s records reveal about the nature of today’s Guinness World Records?

A. The book features a lot of joint records.
B. The book features a lot of amateur athletes.
C. The book features a lot of invented records.
D. The book features a lot of international athletes.

Based on the first sentence of paragraph 1, what is an adage?

A. a lie
B. a story
C. a boast
D. a saying

Read the sentence from paragraph 6 in the box below.

. . . he bagged more than three dozen in 2006 alone, his best year ever.

What is the meaning of the word bagged as it is used in the sentence?

A. ignored
B. captured
C. defended
D. researched
Question 8 is an open-response question.

- Read the question carefully.
- Explain your answer.
- Add supporting details.
- Double-check your work.

Write your answer to question 8 in the space provided in your Student Answer Booklet.

8 Based on the excerpt, explain how the author shows admiration for Ashrita Furman. Support your answer with relevant and specific information from the excerpt.
Claude Brown grew up on the streets of Harlem in the 1940s and 1950s. His autobiography, Manchild in the Promised Land, shows how he emerged from a life of crime, drugs, and violence to attend college and law school. In this excerpt, Brown is about to leave for a juvenile detention center. Read the excerpt and answer the questions that follow.

from Manchild in the Promised Land
by Claude Brown

1. It was snowing real hard outside. Mama was so nervous, she tied my tie about six times before getting it right. I was all set to go downtown to an office to meet somebody who was going to take me upstate. Mama had locked my shoes in the closet the night before to make sure I didn’t get out of the house while she was getting the other kids ready for school. Even though I couldn’t get my shoes, Mama made me stay in the front room till we were ready to go. And every chance she got, Mama would come in the front room to check on me. She knew that if I had enough time, I would get my shoes out of that closet somehow. When Mama couldn’t come out of the kitchen, she would call to me and ask me what I was doing. Every time she asked, I told her the real truth, that I wasn’t doing anything.

2. It seemed like I had already started serving my time that morning, sitting there all dressed up, with everything on but my shoes and hat, in the room farthest away from the door. I was just sitting there at the window watching all that snow falling and feeling kind of sad. The snow just kept on falling, and I knew it was covering more than just the sidewalk. I knew Knoxie was waiting for me to come to his house, and I knew I wasn’t going to make it, but I didn’t care. Maybe it was because I knew what I would be doing for the next few days if I went to Knoxie’s house. And I was wondering what would happen if I went to that office. Who would I meet there? Would there be something to steal there? Maybe I didn’t care about not meeting Knoxie because I knew I couldn’t get my shoes out of the closet.

3. Watching the snow fall made me think about a lot of things. I thought about what Dad had said the night before. He knew he would already have left for work when I got up that morning, so he gave me his good-bye speech the night before. I never used to listen to Dad when he talked to me—I never thought he had anything to say worth listening to—but I always used to make believe I was listening to him. But that night, I didn’t even pretend I was thinking about what he said.

4. Dad started telling me that it would be a long time before I would see the streets of New York City again. And that maybe when I got back, I would appreciate them enough to stop all that . . . stealing and stay home like somebody with some sense. He talked on and on like that. Then he said something. Dad asked me if I remembered when I used to get up every Sunday morning to go out and watch Mr. Jimmy win money from people who were dumb enough to go hunting for a pea that wasn’t there.
I told him I remembered. Then he asked me if I knew what a fool was. I said a fool was somebody stupid. Dad said I was right, but there was more to it than that. He said it takes a stupid person to keep looking for something that is never there. Dad told me to go into the kitchen and get a black-eyed pea.

When I came back with the pea, Dad had set up the card table and was sitting at it with three half nutshells in front of him. I gave him the pea, and Dad started switching the shells around the way Mr. Jimmy used to do. It looked like Dad was doing it real slow, and I was sure I knew where the pea was all the time. I never knew Dad could do that trick, and even then I was sure he was doing it too slow. When Dad stopped sliding the nutshells around, he told me to pick up the one I thought the pea was under. We did this ten times. Each time, I was sure the pea was under the shell I picked up. Ten times I picked the wrong shell. After I made that last wrong pick, Dad looked at me and just kept shaking his head for a little while. Then he said, “That’s jis what you been doin’ all your life, lookin’ for a pea that ain’t there. And I’m mighty ’fraid that’s how you gon end your whole life, lookin’ for that pea.”

What does the fact that Mama has to lock up his shoes emphasize about the narrator?

A. He is lazy.  
B. He is messy.  
C. He is forgetful.  
D. He is rebellious.

Read the sentences from paragraph 2 in the box below.

I was just sitting there at the window watching all that snow falling and feeling kind of sad. The snow just kept on falling, and I knew it was covering more than just the sidewalk.

Based on the excerpt, what does the falling snow most likely symbolize?

A. the comfort of the warm room  
B. the excitement of the urban environment  
C. a problem at the narrator’s new residence  
D. an important transition in the narrator’s life
Based on paragraph 3, how did the narrator used to feel about his father?

A. The narrator admired his father’s common sense.
B. The narrator thought his father worked too hard.
C. The narrator resented his father’s strict rules.
D. The narrator had little respect for his father.

He talked on and on like that. Then he said something.

What does the shift between the two sentences signal?

A. an awakening of the narrator’s attention
B. the growing frustration of the characters
C. the beginning of a serious argument
D. a change in the excerpt’s setting

Based on the excerpt, what is the most likely reason the narrator’s father plays the shell game?

A. to show the narrator how to fool people
B. to show the narrator how to make friends
C. to show the narrator the risks of his behavior
D. to show the narrator the opportunities in the city
Question 14 is an open-response question.

• Read the question carefully.
• Explain your answer.
• Add supporting details.
• Double-check your work.

Write your answer to question 14 in the space provided in your Student Answer Booklet.

14 Describe the mood of the excerpt and explain how the author creates it. Support your answer with relevant and specific information from the excerpt.
Noted food writer Ruth Reichl shares one of the childhood experiences that influenced her enduring love for fine food and great restaurants. Read the excerpt from Garlic and Sapphires and answer the questions that follow.

from Garlic and Sapphires
by Ruth Reichl
Due to copyright restrictions, the selection that appeared on this page cannot be released to the public over the Internet. For more information, see the copyright citation on the previous page.
According to paragraph 1, what was the most important reason for dining at a specific French restaurant?
A. its location
B. its reputation
C. the quality of the waiters
D. the diversity of the menu

In the first sentence of paragraph 2, what is the main effect of the hyperbole?
A. It creates a sense of mystery.
B. It creates a sense of extravagance.
C. It emphasizes the author’s appetite.
D. It emphasizes Max’s irresponsibility.

In paragraph 3, what is the most likely reason the author repeats the word “ordinary”?
A. to show she was nervous to be with the cooks
B. to show she was excited to try different kinds of food
C. to emphasize how ignored by her parents she felt
D. to emphasize how important she felt compared to the other diners

But the biggest treat of all was when Max took me to the kitchen.

What is the function of the sentence in the excerpt?
A. It concludes the author’s thoughts about the restaurant.
B. It serves as a contrast to the author’s previous remarks.
C. It sums up the author’s relationship with the kitchen staff.
D. It serves as a transition to the author’s kitchen experiences.
19. In paragraph 6, what does the spice game reveal about the author?
   A. She was fond of sweets.
   B. She was repelled by strong smells.
   C. She was afraid of disappointing the cooks.
   D. She was knowledgeable about gourmet food.

20. In paragraphs 7 and 8, the author creates a mood of
   A. fear.
   B. regret.
   C. sympathy.
   D. anticipation.

21. In paragraph 3, the word parade means to walk
   A. cautiously.
   B. proudly.
   C. slowly.
   D. rigidly.

22. The word fête is French for an elaborate party or feast. In paragraph 6, it is used as a verb to mean
   A. thank.
   B. console.
   C. pay honor to.
   D. say goodbye to.

Question 23 is an open-response question.
- Read the question carefully.
- Explain your answer.
- Add supporting details.
- Double-check your work.

Write your answer to question 23 in the space provided in your Student Answer Booklet.

23. Based on the excerpt, explain why the author remembers the Dubonnet as a “magical place.” Support your answer with relevant and specific information from the excerpt.
In The Importance of Being Earnest, Jack Worthing and Gwendolen Bracknell have become engaged, but now Gwendolen’s mother wants to meet Jack. Read this excerpt from the comedy set in late-nineteenth-century England and answer the questions that follow:

—from The Importance of Being Earnest
by Oscar Wilde

Jack. Gwendolen!

Gwendolen. Yes, Mr. Worthing, what have you got to say to me?

Jack. You know what I have got to say to you.

Gwendolen. Yes, but you don’t say it.

Jack. Gwendolen, will you marry me? (Goes on his knees.)

Gwendolen. Of course I will, darling. How long you have been about it! I am afraid you have had very little experience in how to propose.

Jack. My own one, I have never loved anyone in the world but you.

Gwendolen. Yes, but men often propose for practice. I know my brother Gerald does. All my girl-friends tell me so. What wonderfully blue eyes you have, . . . ! They are quite, quite blue. I hope you will always look at me just like that, especially when there are other people present.

(Enter Lady Bracknell.)

Lady Bracknell. Mr. Worthing! Rise, sir, from this semi-recumbent posture. It is most indecorous.*

Gwendolen. Mamma! (He tries to rise; she restrains him.) I must beg you to retire. This is no place for you. Besides, Mr. Worthing has not quite finished yet.

Lady Bracknell. Finished what, may I ask?

Gwendolen. I am engaged to Mr. Worthing, mamma. (They rise together.)

Lady Bracknell. Pardon me, you are not engaged to anyone. When you do become engaged to some one, I, or your father, should his health permit him, will inform you of the fact. An engagement should come on a young girl as a surprise, pleasant or unpleasant, as the case may be. It is hardly a matter that she could be allowed to arrange for herself. . . . And now I have a few questions to put to you, Mr. Worthing. While I am making these inquiries, you, Gwendolen, will wait for me below in the carriage.

Gwendolen (reproachfully). Mamma!

Lady Bracknell. In the carriage, Gwendolen! (Gwendolen goes to the door. She and Jack blow kisses to each other behind Lady Bracknell’s back. Lady Bracknell looks vaguely about as if she could not understand what the noise was. Finally turns round.) Gwendolen, the carriage!

Gwendolen. Yes, mamma. (Goes out, looking back at Jack.)

* indecorous — lacking good taste
Lady Bracknell (sitting down). You can take a seat, Mr. Worthing. (Looks in her pocket for notebook and pencil.)

Jack. Thank you, Lady Bracknell, I prefer standing.

Lady Bracknell (pencil and notebook in hand). I feel bound to tell you that you are not down on my list of eligible young men, although I have the same list as the dear Duchess of Bolton has. We work together, in fact. However, I am quite ready to enter your name, should your answers be what a really affectionate mother requires. Do you smoke?

Jack. Well, yes, I must admit I smoke.

Lady Bracknell. I am glad to hear it. A man should always have an occupation of some kind. There are far too many idle men in London as it is. How old are you?

Jack. Twenty-nine.

Lady Bracknell. A very good age to be married at. I have always been of opinion that a man who desires to get married should know either everything or nothing. Which do you know?

Jack (after some hesitation). I know nothing, Lady Bracknell.

Lady Bracknell. I am pleased to hear it. I do not approve of anything that tampers with natural ignorance. Ignorance is like a delicate exotic fruit; touch it and the bloom is gone. The whole theory of modern education is radically unsound. Fortunately in England, at any rate, education produces no effect whatsoever. If it did, it would prove a serious danger to the upper classes, and probably lead to acts of violence in Grosvenor Square. What is your income?

Jack. Between seven and eight thousand a year.

Lady Bracknell (makes a note in her book). In land, or in investments?

Jack. In investments, chiefly.

Lady Bracknell. That is satisfactory. What between the duties expected of one during one’s life-time, and the duties exacted from one after one’s death, land has ceased to be either a profit or a pleasure. It gives one position, and prevents one from keeping it up. That’s all that can be said about land.

Jack. I have a country house with some land, of course, attached to it, about fifteen hundred acres, I believe; but I don’t depend on that for my real income. In fact, as far as I can make out, the poachers are the only people who make anything out of it.

Lady Bracknell. A country house! How many bedrooms? Well, that point can be cleared up afterwards. You have a town house, I hope? A girl with a simple, unspoiled nature, like Gwendolen, could hardly be expected to reside in the country.

Jack. Well, I own a house in Belgrave Square, but it is let by the year to Lady Bloxham. Of course, I can get it back whenever I like, at six months’ notice.

Lady Bracknell. Lady Bloxham? I don’t know her.

Jack. Oh, she goes about very little. She is a lady considerably advanced in years.

Lady Bracknell. Ah, now-a-days that is no guarantee of respectability of character. What number in Belgrave Square?

Jack. 149.

Lady Bracknell (shaking her head). The unfashionable side. I thought there was something. However, that could easily be altered.

Jack. Do you mean the fashion, or the side?

Lady Bracknell (sternly). Both, if necessary, I presume. What are your politics?
JACK. Well, I am afraid I really have none. I am a Liberal Unionist.

LADY BRACKNELL. Oh, they count as Tories. They dine with us. Or come in the evening, at any rate. Now to minor matters. Are your parents living?

JACK. I have lost both my parents.

LADY BRACKNELL. Both? ... That seems like carelessness. Who was your father? He was evidently a man of some wealth. Was he born in what the Radical papers call the purple of commerce, or did he rise from the ranks of the aristocracy?

JACK. I am afraid I really don’t know. The fact is, Lady Bracknell, I said I had lost my parents. It would be nearer the truth to say that my parents seem to have lost me . . . I don’t actually know who I am by birth. I was . . . well, I was found.

LADY BRACKNELL. Found!

JACK. The late Mr. Thomas Cardew, an old gentleman of a very charitable and kindly disposition, found me, and gave me the name of Worthing, because he happened to have a first-class ticket for Worthing in his pocket at the time. Worthing is a place in Sussex. It is a seaside resort.

LADY BRACKNELL. Where did the charitable gentleman who had a first-class ticket for this seaside resort find you?

JACK (gravely). In a hand-bag.

LADY BRACKNELL. A hand-bag?

JACK (very seriously). Yes, Lady Bracknell. I was in a hand-bag—a somewhat large, black leather hand-bag, with handles to it—an ordinary hand-bag in fact.

LADY BRACKNELL. In what locality did Mr. James, or Thomas, Cardew come across this ordinary hand-bag?

JACK. In the cloak-room at Victoria Station. It was given to him in mistake for his own.

LADY BRACKNELL. The cloak-room at Victoria Station?

JACK. Yes. The Brighton line.

LADY BRACKNELL. The line is immaterial. Mr. Worthing, I confess I feel somewhat bewildered by what you have just told me. To be born, or at any rate bred, in a hand-bag, whether it had handles or not, seems to me to display a contempt for the ordinary decencies of family life that remind one of the worst excesses of the French Revolution. And I presume you know what that unfortunate movement led to? As for the particular locality in which the hand-bag was found, a cloak-room at a railway station might serve to conceal a social indiscretion—has probably, indeed, been used for the purpose before now—but it could hardly be regarded as an assured basis for a recognized position in good society.

JACK. May I ask you then what you would advise me to do? I need hardly say I would do anything in the world to ensure Gwendolen’s happiness.

LADY BRACKNELL. I would strongly advise you, Mr. Worthing, to try and acquire some relations as soon as possible, and to make a definite effort to produce at any rate one parent, of either sex, before the season is quite over.

JACK. Well, I don’t see how I could possibly manage to do that. I can produce the hand-bag at any moment. It is in my dressing-room at home. I really think that should satisfy you, Lady Bracknell.
LADY BRACKNELL. Me, sir! What has it to do with me? You can hardly imagine that I and Lord Bracknell would dream of allowing our only daughter—a girl brought up with the utmost care—to marry into a cloak-room, and form an alliance with a parcel? Good morning, Mr. Worthing! (LADY BRACKNELL sweeps out in majestic indignation.)

In the public domain.

24 In lines 20–23, what does Lady Bracknell mainly suggest about young women?
A. They are not grateful for their families’ guidance.
B. They are not enthusiastic about having big weddings.
C. They are not able to triumph over difficult circumstances.
D. They are not sensible enough to choose suitable husbands.

25 In line 46, what is the most likely reason Jack hesitates before responding?
A. He thinks he hears Gwendolen returning.
B. He does not understand Lady Bracknell’s question.
C. He is trying to decide which answer Lady Bracknell wants.
D. He is thinking about something Gwendolen previously said.
26. Read Lady Bracknell’s statements from the excerpt in the box below.

- A man should always have an occupation of some kind.
- I do not approve of anything that tampers with natural ignorance.

What are Lady Bracknell’s statements **mainly** meant to satirize?
A. the educational system in England
B. the transportation system in England
C. the beliefs of the English upper class
D. the architecture of English country houses

27. Read the stage direction from line 121 in the box below.

(LADY BRACKNELL sweeps out in majestic indignation.)

What does the stage direction show about Lady Bracknell’s feelings?
A. She is happy that Jack agrees with her views.
B. She is hopeful that Jack will find out more about his background.
C. She is sorry the match between Jack and her daughter will not work.
D. She is angry that Jack assumed he was good enough for her daughter.
Read about how wolves rely on one another for their survival in this excerpt from How Smart Are Animals? and answer the questions that follow.

from **HOW SMART ARE ANIMALS?**
by Dorothy Hinshaw Patent

1. The old buck fled through the sparse trees along the edge of the meadow, two wolves hard at his heels. Just as he began to pull away from his tiring pursuers, another wolf sprang out from behind a tree and took up the chase. It was too much for the winded deer. As his exhausted body forced him to slow down, the wolf closed in for the kill. Now there would be enough food for the whole pack, including the hungry pups waiting back at the den.

2. Wolves are intelligent animals. They have to be—their cooperative hunting life style demands the ability to communicate, cooperate, and plan, all important aspects of intelligence. In many ways, the wolf in the Northern Hemisphere filled the same evolutionary niche occupied by the evolving ancestors of modern humans in Africa. Perhaps by looking at wolves, we can understand a little about the origins of our own well-tuned brains. Knowing something about wolves can also help us see in a new and revealing way the mind of our most helpful animal companion, the dog.

3. Wolves normally live in family groups called packs. A pack usually consists of a pair of wolves, their pups of the year, and their offspring from previous years. Often, a wolf that is reaching sexual maturity leaves, and a lone wolf may join an established pack. For these reasons, all the wolves in a pack are not necessarily related.

4. Social relationships within the group are of vital importance. Each animal has its proper place in the pack. The breeding pair, called the alpha male and the alpha female, are treated with great respect by the other wolves. Any animal above a particular wolf in the pecking order is said to be “dominant” to it, while that same animal is dominant to individuals lower down. When approaching a dominant animal, a wolf keeps its tail down, ears back, and head low. The dominant animal walks with stiff legs and keeps its head and tail held high. Wolves in the pack interact often with one another, and their communication can be quite subtle. The complex social interactions of the pack require great sensitivity and alertness on the part of its members.

5. The whole pack cooperates in caring for the pups, usually produced by the alpha pair. Upon returning to the pups after a hunt, the adults regurgitate meat for the pups to eat. Sometimes, a pack member will “baby-sit” for the youngsters while the alpha female joins the hunting party.
Before the hunt, the wolves all gather and interact, greeting one another and often howling together. This behavior probably helps them act as a coordinated team while going after game.

The life of the wolf is similar in many key ways to that of human hunting tribes. Both require cooperation in the hunt and a social environment for raising offspring. Both spend about the same proportion of their lifetimes as young, dependent members of the group. In addition, hunting species have spare time to spend in social activities after a kill is made, since a big kill may feed the group for an extended period of time.

Hunting species also require a home base where the nonhunting members of the group can live while the others are out obtaining food. Human hunters have a village or campsite, while wolves use the den or rendezvous spot. When wolf pups are young, they stay secluded in an earthen den, coming out only when at least one adult is around to protect them. When older, the pups are left at a rendezvous site to which the pack returns after the hunt.

Some scientists pondering the unique intelligence of humans have wondered if social living may have been the key factor that stimulated the development of our special mentality. They feel that the mental flexibility necessary to deal with social interactions could have been the starting point for a generally more adaptable mind. Certainly many intelligent animals—wolves, dolphins, chimpanzees, and elephants, for example—are also highly social.

How smart are wolves? Observing wolves in the wild is very difficult because of their mobility. But what is known about their lives indicates that they know how to use their brains. Hunting requires mental traits that have intelligent elements. Hunters must be persistent in searching for prey, even when they can’t see or smell it; persistence is important in solving any sort of difficult problem. The wolf hunt also shows elements of planning. The animals sometimes chase their prey in relays, fresh wolves replacing those that have tired. Before a rush against prey, some individuals will take up positions blocking possible escape routes.

Wolves often encircle their prey and carry out a coordinated stalk, slowly tightening the circle, leaving no way of escape. One wolf often grabs the nose of a large prey animal, such as a moose, with its jaws. A hold like that would be useless for a single hunter, but it helps slow down the prey when a group is attacking. The wolf with the nose hold needs to be aware that its companions will use deadlier methods while it hangs on.

Wolves also can figure out when the chase is hopeless. They often test a herd by running it for a distance, then quit if no individual seems slower or weaker than the others. All these aspects of hunting behavior require awareness of the situation, ways of planning ahead, and means of communicating among members of the pack.

Wolves have a very clear understanding of the geographical details of their territory, which can be very large. While wolves generally follow game trails and roads when on the move, they will also take shortcuts to get to their destination more quickly. They
may depart from the trail while following prey to go to the top of a ridge, where they can view what lies ahead.

Such a mental representation of their surroundings indicates a sophisticated level of brain function. The term “cognitive map” is used to refer to these internal versions of an animal’s environment. It was originally used only to refer to a knowledge of terrain thorough enough to enable an animal to take new routes from one place to another. But now its meaning has been broadened to include the ability to plan actions of other types, in the belief that the two abilities are related.

Some scientists think that cognitive maps could provide the basis for human intelligence and for the development of language. Their argument goes as follows: Hunting large animals required human ancestors to be able to travel far in their search for food and to learn the geographical details of a large area, stretching the mental limits of the primate brain. Without natural weapons like powerful jaws and teeth, they had to develop and coordinate the use of weapons like axes and spears. This process required more complex communication than among foragers that gathered food individually. While many animals recognize individuals and key locations by smell, humans can’t. So our ancestors, needing a way to label individuals and locations, began to use sounds for such identification. These sounds ultimately became words. And the ability of the brain to form complex cognitive maps could have allowed for the development of true language using those words as a starting point.
Reading Comprehension

28. What is the story in paragraph 1 most likely meant to illustrate?
   A. how savage wolves are toward deer
   B. how wolves collaborate during a chase
   C. how smart wolves are as opposed to deer
   D. how wolves protect one another from danger

29. Which of the following best describes the author’s purpose in paragraph 3?
   A. to define
   B. to narrate
   C. to compare
   D. to persuade

30. What does the author mainly suggest in paragraph 4?
   A. It is not often that wolves sleep deeply.
   B. It is exciting to watch a pack of wolves.
   C. It is not common that a wolf lives alone.
   D. It is important for a wolf to obey pack rules.

31. Read the sentence from paragraph 6 in the box below.
   Before the hunt, the wolves all gather and interact, greeting one another and often howling together.

   Based on the paragraph, the behavior described in the sentence is most like which of the following human examples?
   A. A teacher leads a class through a workshop.
   B. Newspaper editors brainstorm article ideas together.
   C. Football players join together for a pregame huddle.
   D. A church choir meets to rehearse a new piece of music.
According to paragraph 10, why is it difficult to study wolves?
A. Wolf packs do not stay in one place for long.
B. Wolf packs are continually changing members.
C. Wolves are too intelligent to be observed by humans.
D. Wolves do not display the kind of intelligence humans understand.

Based on paragraphs 10–12, which of the following statements is not evidence that wolves are intelligent?
A. They are persistent.
B. They communicate.
C. They are deadly.
D. They plan.

Based on paragraphs 13 and 14, how does the use of cognitive maps most help wolves?
A. It allows them to be flexible in their movements.
B. It allows them to remain safe from predators.
C. It allows them to hide food for future use.
D. It allows them to build elaborate dens.

What is the best replacement for the word *rendezvous* as it is used in paragraph 8?
A. drinking
B. meeting
C. fighting
D. stalking

Question 36 is an open-response question.
- Read the question carefully.
- Explain your answer.
- Add supporting details.
- Double-check your work.

Write your answer to question 36 in the space provided in your Student Answer Booklet.

Based on the excerpt, explain what the behavior of wolves can teach us about the development of early humans. Support your answer with relevant and specific information from the excerpt.
In this poem, the speaker’s grandfather is teaching the speaker and his sister to drive in a rural area of New Mexico. Read “Driving Lesson” and answer the questions that follow.

Driving Lesson

Beside him in the old Ford pickup
that smelled of rope and grease and cattle feed,
sat my sister and I, ten and eight, big,
now our grandfather would teach us
that powerful secret, how to drive.
Horizon of high mountain peaks visible
above the blue hood, steering wheel huge
in our hands, pedals at our toe-tips,
we heard his sure voice urge us
Give it gas, give it gas. Over the roar
of the engine our hearts banged
like never before and banged on
furiously in the silence after
we bucked and stalled the truck.
How infinitely empty it then seemed—
windy flat rangeland of silver-green
gramma grass dotted with blooming cactus
and jagged outcrops of red rock, beginnings
of the Sangre de Cristos* fifty miles off.
All Guadelupe County, New Mexico,
nothing to hit, and we could not
get the damn thing going. Nothing to hit
was no help. It was not the mechanics
of accelerator and clutch, muscle and bone,
but our sheer unruly spirits
that kept us small with the great desire
to move the world by us, earth and sky
and all the earth and sky contained.
And how hard it was when,
after our grandfather who was a god
said Let it out slow, slow
time and again
until we did and were at long last rolling

* Sangre de Cristos — a mountain range
over the earth, his happy little angels,
how hard it was to listen
not to our own thrilled inner voices
saying Go, go, but to his saying
the Good, good we loved but also
the Keep it in the ruts we hated to hear.
How hard to hold to it—
single red vein of a ranch road
running out straight across the mesa,
blood we were bound to follow—
when what we wanted with all our hearts
was to scatter everywhere, everywhere.

—Michael Pettit

“Driving Lesson” by Michael Pettit, from Cardinal Points. Copyright © 1988 by the University of Iowa Press. Reprinted by permission of the author.
37. In lines 11 and 12, what is the most likely reason the poet uses the word “banged” to describe the children’s hearts?
A. to show that the children worry about getting hurt
B. to emphasize the children’s nervous excitement
C. to show that the children care for each other
D. to emphasize the children’s bitter defiance

38. Based on the poem, why did the speaker hate to “Keep it in the ruts”?
A. It affected his ability to stop the truck.
B. It guided him away from the ranch.
C. It limited his ability to explore.
D. It made him resent his sister.

39. The italics in lines 10 and 31 indicate
A. the grandfather’s words.
B. the speaker’s thoughts.
C. turning points.
D. flashbacks.

40. Which of the following definitions of bound is used in line 42?
A. to be on the way
B. to leap forward
C. destined
D. tied
### English Language Arts
### Reading Comprehension Retest
### November 2011 Released Items:
### Reporting Categories, Standards, and Correct Answers*

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* Answers are provided here for multiple-choice items only.
III. Mathematics Retest
Mathematics Retest

The Mathematics retest was based on learning standards in the Massachusetts Mathematics Curriculum Framework (2000). The Framework identifies five major content strands, listed below.

- Number Sense and Operations
- Patterns, Relations, and Algebra
- Geometry
- Measurement
- Data Analysis, Statistics, and Probability

The grades 9–10 learning standards for these strands appear on pages 72–75 of the Mathematics Curriculum Framework, which is available on the Department website at www.doe.mass.edu/frameworks/current.html.

Mathematics retest results are reported under five MCAS reporting categories, which are identical to the five Mathematics Curriculum Framework content strands listed above.

Test Sessions

The Mathematics retest included two separate test sessions, which were administered on consecutive days. Each session included multiple-choice and open-response items. Session 1 also included short-answer questions.

Reference Materials and Tools

Each student taking the Mathematics retest was provided with a Grade 10 Mathematics Reference Sheet and was allowed to refer to it at any time during testing. A copy of the reference sheet follows the final question in this chapter.

During session 2, each student had sole access to a calculator with at least four functions and a square root key. Calculator use was not allowed during session 1.

The use of bilingual word-to-word dictionaries was allowed for English language learner students only during both Mathematics retest sessions. No other reference tools or materials were allowed.

Cross-Reference Information

The table at the conclusion of this chapter indicates each item’s reporting category and the framework learning standard it assesses. The correct answers for multiple-choice and short-answer items are also displayed in the table.
The line plot below shows the number of hours Travis worked each week during the summer.

Based on the line plot, which of the following is true?

A. The mean of the data is 25.
B. The mode of the data is 22.
C. The range of the data is 14.
D. The median of the data is 21.

Which of the following is closest to the value of the expression below?

\[ 5 + \sqrt{13} \]

A. 6.3
B. 8.6
C. 11.5
D. 18.0
The scatterplot below shows the relationship between the price of a toy and the number of toys sold.

Based on the line of best fit for the scatterplot, which of the following is closest to the number of toys sold when the price of the toy is $12?

A. 8,000
B. 10,000
C. 12,000
D. 14,000

What is the value of the expression below?

\[ 5^3 \]

A. 15
B. 25
C. 75
D. 125

Which of the following is equivalent to the expression below?

\[ \frac{12x - 6}{3} \]

A. \( 4x - 6 \)
B. \( 4x - 2 \)
C. \( 9x - 3 \)
D. \( 12x - 2 \)
6. Which of the following has the same value as the expression below?

\[ 52(13 + 192) \]

A. \( 5,213 + 52,192 \)
B. \( (52 \cdot 13) + 192 \)
C. \( (52 + 13) + (52 + 192) \)
D. \( (52 \cdot 13) + (52 \cdot 192) \)

7. A pump is draining 12,000 gallons of water out of a swimming pool. The pump drains at a constant rate of 360 gallons per hour.

Which of the following equations expresses the relationship between \( x \), the number of hours the pump has been draining the pool, and \( y \), the number of gallons of water left in the pool?

A. \( y = 360x - 12,000 \)
B. \( y = 360x + 12,000 \)
C. \( y = 12,000 - 360x \)
D. \( y = 12,000 + 360x \)

8. A teacher wrote the equation below on the board.

\[ n + 5 = 0 \]

Based on the value of \( n \) that makes the equation true, which of the following expressions has a value of 10?

A. \( 5 - n \)
B. \( 5 + n \)
C. \( 5n \)
D. \( \frac{5}{n} \)

9. Which of the following is equivalent to the expression below?

\[ \sqrt{8^2} \]

A. 4
B. 8
C. 16
D. 32
10. A line and two points that lie on the line are graphed on the coordinate grid below.

Which of the following is an equation of the line?

A.  \( y = -3x - 6 \)
B.  \( y = 3x - 6 \)
C.  \( y = -3x - 2 \)
D.  \( y = 3x - 2 \)

11. What is the value of the expression below?

\[ 4(9 - 2 \cdot 3) \]

A.  12
B.  30
C.  84
D.  102

12. The bar graph below shows the number of grams of fiber per serving for six different fruits.

What is the median number of grams of fiber per serving for the six fruits?

A.  3.2
B.  3.4
C.  3.6
D.  4.0
13 What value of $x$ makes the equation below true?

$$-6x = 1$$

A. $-6$

B. $\frac{1}{6}$

C. $\frac{1}{6}$

D. 6

14 Which of the following is equivalent to the expression below?

$$2a(3a - 4)$$

A. $6a - 4$

B. $6a - 8$

C. $6a^2 - 4a$

D. $6a^2 - 8a$
Questions 15 and 16 are short-answer questions. Write your answers to these questions in the boxes provided in your Student Answer Booklet. Do not write your answers in this test booklet. You may do your figuring in the test booklet.

15 The number of concert tickets sold by each member of a music club is listed in the box below.

\[
9, 20, 17, 8, 12, 22, 18, 11, 15, 18
\]

What is the median number of tickets sold?

16 What is one value of \( k \) that makes the equation below true?

\[(k + 3)(k - 6) = 0\]
A mapmaker drew a map of some city streets. In his map, shown below,
- North Street, Center Street, and South Street are parallel to each other, and
- Main Street intersects North Street, Center Street, and South Street.

a. What is the measure, in degrees, of \( \angle 1 \)? Show or explain how you got your answer.
b. What is the measure, in degrees, of \( \angle 2 \)? Show or explain how you got your answer.
c. What is the relationship of \( \angle 1 \) to \( \angle 3 \)? Show or explain how you got your answer.

two additional streets, Elm Street and Oak Street, will be added to the map. Elm Street is perpendicular to Main Street. Elm Street is also perpendicular to Oak Street.

d. What is the relationship of the lines that represent Main Street and Oak Street? Explain your reasoning.
Questions 18 and 19 are short-answer questions. Write your answers to these questions in the boxes provided in your Student Answer Booklet. Do not write your answers in this test booklet. You may do your figuring in the test booklet.

18. What value of \( p \) makes the system of equations below true?

\[
\begin{align*}
4p + 3m &= 20 \\
4p + m &= 12
\end{align*}
\]
Write your answer to question 19 in the box provided in your Student Answer Booklet.

19. What is the value of the expression below?

\[ 2(1 - 6)^2 \]
The speed, in miles per hour, of each of Mario’s serves during tennis practice is shown in the stem-and-leaf plot below.

<table>
<thead>
<tr>
<th>Tennis Serve Speeds</th>
<th>(in miles per hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>8</td>
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<tr>
<td>5</td>
<td>0 0 4 5 7</td>
</tr>
<tr>
<td>6</td>
<td>0 1 1 1 3 3 5 6 8</td>
</tr>
<tr>
<td>7</td>
<td>2 4 4 5 6 8</td>
</tr>
<tr>
<td>8</td>
<td>0 1 1 4 5</td>
</tr>
</tbody>
</table>

**Key**

5 | 0 represents 50

a. What is the range of the speeds, in miles per hour, of Mario’s tennis serves? Show or explain how you got your answer.

b. What is the mode of the speeds, in miles per hour, of Mario’s tennis serves? Show or explain how you got your answer.

c. What is the median speed, in miles per hour, of Mario’s tennis serves? Show or explain how you got your answer.

The speed of one additional tennis serve will be added to Mario’s stem-and-leaf plot.

d. What is the greatest amount, in miles per hour, the median speed can change? Show or explain how you got your answer.
Write your answer to question 21 in the space provided in your Student Answer Booklet.

The first four terms in an exponential pattern are shown below.

8, 16, 32, 64, . . .

a. What number is the next term in the pattern? Show or explain how you got your answer.
b. Write a rule in words that can be used to find each term in the pattern.
c. What number is the 10th term in the pattern? Show or explain how you got your answer.
d. Write an algebraic expression using $n$ that can be used to find the $n$th term in the pattern.
Mathematics

SESSION 2

You may use your reference sheet during this session. You may use a calculator during this session.

DIRECTIONS
This session contains eighteen multiple-choice questions and three open-response questions. Mark your answers to these questions in the spaces provided in your Student Answer Booklet.

22. The diagram below shows a pennant and some of its dimensions.

[Diagram of a pennant with dimensions 20 cm, 24 cm, and 16 cm]

What is the area of the pennant?
A. 192 cm$^2$
B. 240 cm$^2$
C. 384 cm$^2$
D. 480 cm$^2$

23. The bar graph below shows the numbers of students enrolled in summer classes. Each student is enrolled in one class.

[Bar graph showing numbers of students enrolled in Web Design, Creative Writing, Calculus, Ancient History, and Philosophy]

Students Enrolled in Summer Classes

Which two classes together have exactly $\frac{1}{2}$ of the total number of students enrolled in summer classes?
A. Web Design and Ancient History
B. Web Design and Philosophy
C. Creative Writing and Ancient History
D. Creative Writing and Philosophy
24 In the diagram below, lines $p$ and $q$ are parallel and lines $j$ and $k$ are parallel. Line $n$ passes through the intersection of lines $p$ and $j$ and the intersection of lines $q$ and $k$.

Based on the diagram, which of the following **must** always be true?

A. $\angle 2 \equiv \angle 6$
B. $\angle 3 \equiv \angle 6$
C. $m\angle 1 + m\angle 5 = 90^\circ$
D. $m\angle 1 + m\angle 5 = 180^\circ$

26 Which of the following graphs best represents the solution for the inequality below?

$$2 |x| \leq 4$$

A. [Graph A]
B. [Graph B]
C. [Graph C]
D. [Graph D]

25 The perimeter of square $HJKL$ is 2 times the perimeter of square $WXYZ$.

The area of square $HJKL$ is how many times the area of square $WXYZ$?

A. 16
B. 8
C. 4
D. 2
27. In the diagram below, $\triangle FGH \sim \triangle LNP$.

Based on the dimensions in the diagram, which of the following is true?

A. $FH = LP$
B. $GH = 2 \cdot NP$
C. $m\angle H = m\angle P$
D. $m\angle F = \frac{1}{2} m\angle L$

28. The manager of an apartment building increases the monthly rent of each apartment in the building by 3% each year. At the beginning of year 1, the monthly rent of an apartment was $500. What was the monthly rent of the apartment at the beginning of year 3?

A. $546.36$
B. $530.45$
C. $530.00$
D. $515.00$

29. A gift box is in the shape of a cube. The length of each edge is 7 inches. What is the volume of the gift box?

A. 42 cubic inches
B. 49 cubic inches
C. 294 cubic inches
D. 343 cubic inches

30. The list below shows the number of craft items sold by each of eleven artists at a craft fair.

<table>
<thead>
<tr>
<th>26</th>
<th>10</th>
<th>37</th>
<th>41</th>
<th>89</th>
<th>28</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>17</td>
<td>48</td>
<td>97</td>
<td>48</td>
<td>?</td>
</tr>
</tbody>
</table>

The number of items the twelfth artist sold is missing. The mean of the number of items sold by all twelve artists is 42. What is the total number of items the twelfth artist sold?

A. 11
B. 33
C. 39
D. 43
Three rectangles and some of their dimensions are shown below.

a. What is the perimeter, in centimeters, of Rectangle 1? Show or explain how you got your answer.

The three rectangles have equal perimeters.

b. What is the value of $x$ in Rectangle 2? Show or explain how you got your answer.

c. Which of the three rectangles has the greatest area? Show or explain how you got your answer.

A fourth rectangle, not shown, has a perimeter that is the same as the perimeter of each of the three rectangles.

d. What is the greatest possible area, in square centimeters, of the fourth rectangle? Show or explain how you got your answer.
Keiko built a right square pyramid for her history project. The pyramid and its dimensions are shown in the diagram below.

What is the total surface area of the pyramid?

A. 1040 cm$^2$
B. 1360 cm$^2$
C. 1440 cm$^2$
D. 1648 cm$^2$

On an assembly line, 125 boxes were packaged in 5 minutes.
Which of the following proportions can be used to find $x$, the number of minutes it takes to package 1000 boxes on the assembly line?

A. $\frac{5}{1000} = \frac{x}{125}$
B. $\frac{5}{1000} = \frac{125}{x}$
C. $\frac{5}{125} = \frac{1000}{x}$
D. $\frac{5}{125} = \frac{x}{1000}$
The diagram below shows \( XY \) and its image \( X'Y' \) after a single transformation.

Which of the following describes the transformation?

A. rotation 90° clockwise about the origin
B. translation 4 units to the right
C. reflection over the \( x \)-axis
D. reflection over the \( y \)-axis

Based on the dimensions in the diagram, what is the height, \( h \), of the garage?

A. 13 ft.
B. 14 ft.
C. 15 ft.
D. 16 ft.
The scatterplot below shows the relationship between the diameter and the cost of each frying pan for sale at a kitchen supply store.

Based on the scatterplot, what is the total number of frying pans that have a diameter of less than 9 inches and cost less than $50?

A. 5  
B. 6  
C. 8  
D. 9

A cube is shown below.

A cross section of the cube passes through exactly 3 vertices. Which of the following shapes represents the cross section?

A. hexagon  
B. pentagon  
C. triangle  
D. square
38. The diagram below shows a trapezoid and its dimensions.

The area of the trapezoid is:
A. 156 sq. ft.
B. 195 sq. ft.
C. 312 sq. ft.
D. 405 sq. ft.

39. Carrie opened a savings account with a deposit of $880.

- Each month she withdrew $75 from the account.
- Each month a $1.50 maintenance fee was withdrawn from the account.

What was the balance of Carrie’s savings account at the end of 6 months if there were no other deposits or withdrawals?

A. $421
B. $430
C. $450
D. $459
40. The list below shows the number of train tickets sold each week during an eight-week period.

2945, 4572, 3560, 3359, 4089, 2841, 3283, 4266

What is the range of the data?

A. 1321
B. 1425
C. 1627
D. 1731
Janine has started an exercise program. As part of her exercise program, she will walk along trails. Janine walks at an average speed of 1 mile in 15 minutes.

a. What is Janine’s average speed in miles per hour? Show or explain how you got your answer.

Janine plans to walk along a trail that is 5.6 miles long.

b. If Janine walks at her average speed, how much time will it take her to walk the 5.6 miles? Show or explain how you got your answer.

Janine’s goal is to burn 750 calories by walking. A woman of her weight walking at her average speed burns 236 calories in one hour.

c. How many calories will Janine burn walking the 5.6 miles at her average speed? Show or explain how you got your answer.

d. How much additional time will Janine have to walk at her average speed to burn a total of 750 calories? Show or explain how you got your answer.
Amir is studying how a pump moved water from Tank 1 to Tank 2. The graph below represents the relationship between $x$, the number of hours the pump has been operating, and $y$, the number of gallons of water in each tank.

42. **Amount of Water in Tank 1 and Tank 2**

<table>
<thead>
<tr>
<th>Number of Gallons</th>
<th>0</th>
<th>100</th>
<th>200</th>
<th>300</th>
<th>400</th>
<th>500</th>
<th>600</th>
<th>700</th>
<th>800</th>
<th>900</th>
<th>1000</th>
<th>1100</th>
<th>1200</th>
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<tbody>
<tr>
<td>Number of Hours</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

a. Based on the graph, what was the number of gallons of water in **Tank 2** at the time the pump started operating? Explain how you got your answer.

b. Based on the graph, what was the number of gallons of water per hour that the pump moved to **Tank 2**? Show or explain how you got your answer.

c. Write an equation that can be used to determine the value of $y$ for **Tank 2** after the pump has been operating for $x$ hours. Show or explain how you got your equation.

d. Write an equation that can be used to determine the value of $y$ for **Tank 1** after the pump has been operating for $x$ hours. Show or explain how you got your equation.

e. Based on the graph, Amir thought that the two tanks contained the same amount of water after the pump had been operating for 4 hours. Use your equations from parts (c) and (d) to show whether or not Amir is correct.
AREA FORMULAS

square ...................... \( A = s^2 \)
rectangle .................. \( A = bh \)
parallelogram .......... \( A = bh \)
triangle ................. \( A = \frac{1}{2}bh \)
trapezoid .............. \( A = \frac{1}{2}h(b_1 + b_2) \)
circle ................... \( A = \pi r^2 \)

VOLUME FORMULAS

cube .................................. \( V = s^3 \)
\( s = \text{length of an edge} \)
right rectangular prism ...... \( V = lwh \)
\( \text{OR} \)
\[ V = Bh \]
\( B = \text{area of a base} \)
sphere .............................. \( V = \frac{4}{3}\pi r^3 \)
right circular cylinder ........ \( V = \pi r^2h \)
right circular cone .......... \( V = \frac{1}{3}\pi r^2h \)
right square pyramid .......... \( V = \frac{1}{3}s^2h \)

CIRCLE FORMULAS

\( C = 2\pi r \)
\( A = \pi r^2 \)

SPECIAL RIGHT TRIANGLES

45°-45°-90°
\[ x\sqrt{2} \]
\[ x \]

30°-60°-90°
\[ 2y \]
\[ y\sqrt{3} \]
\[ y \]
**Mathematics Retest**  
**November 2011 Released Items:**  
**Reporting Categories, Standards, and Correct Answers**

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*Answers are provided here for multiple-choice items and short-answer items only. Each open-response item has its own set of scoring guidelines, which allow for valid alternate interpretations and responses.*