

ACTAAP

Arkansas Comprehensive Testing, Assessment, and Accountability Program

RELEASED ITEM

BOOKLET

GRADE 8

AUGMENTED BENCHMARK EXAMINATION

April 2012

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Pages 8–10: “Decorate for the Birds” by Rebecca Bull Reed from *Southern Living Magazine*, December 2005, pp. 78–79.

Table of Contents—2012 Augmented Benchmark Grade 8

	PAGE(S)
PART I	
Overview	1
PART II	
Released Test Items with Correct Responses and Rubrics	
Released Reading Items	2
Released Writing Prompt	14
Released Writing Items	16
Released Mathematics Items.....	18
PART III	
Item Correlation with Curriculum Framework	
The Arkansas English Language Arts Curriculum Framework—Reading Strand	37
Released Items for Reading	38
Non-Released Items for Reading	39
The Arkansas English Language Arts Curriculum Framework—Writing Strand	40
Released Items for Writing	41
Non-Released Items for Writing	42
The Arkansas Mathematics Curriculum Framework	43
Released Items for Mathematics	45
Non-Released Items for Mathematics.....	46

Part I Overview—2012 Augmented Benchmark Grade 8

The criterion-referenced tests implemented as part of the Arkansas Comprehensive Testing, Assessment, and Accountability Program (ACTAAP) are being developed in response to Arkansas Legislative Act 35, which requires the State Board of Education to develop a comprehensive testing program that includes assessment of the challenging academic content standards defined by the Arkansas Curriculum Frameworks.

As part of this program, all grade 8 students in Arkansas public schools participated in the *Grade 8 Augmented Benchmark Examination* in April 2012.

This Released Item Booklet for the *Grade 8 Augmented Benchmark Examination* contains test questions or items that were asked of students during the April 2012 operational administration. The test items included in Part II of this booklet are some of the items that contributed to the student performance results for that administration.

Students were given approximately two hours each day to complete assigned test sessions during the four days of testing in April 2012. Students were permitted to use a calculator for the mathematics items (both multiple-choice and open-response items), with the exception of mathematics questions 1–6 in this Released Item Booklet (items 1–10 in the test booklet). Students were also supplied with a reference sheet to be used during the mathematics sessions so that all students would have equal access to this information during testing. (See the reference sheet on page 36 of this booklet.) All of the reading, writing, and mathematics multiple-choice items within this booklet have the correct response marked with an asterisk (*). The open-response questions for reading, mathematics, and the essay prompt for writing are listed with scoring guides (rubrics) immediately following. These rubrics provide information on the scoring model used for each subject, with the scoring model for writing defining the overall curricular and instructional link for that subject with the *Arkansas English Language Arts Curriculum Framework*. The domain scoring model, implemented within Arkansas for a number of years, illustrates the appropriate instructional approaches for writing within the state.

The development of the *Grade 8 Augmented Benchmark Examination* was based on the Arkansas Curriculum Frameworks. These frameworks have common distinct levels: Strands to be taught in concert, Content Standards within each Strand, and Student Learning Expectations within each Content Standard. Abridged versions of the *Arkansas English Language Arts Curriculum Framework—Reading Strand*, *Arkansas English Language Arts Curriculum Framework—Writing Strand*, and *Arkansas Mathematics Curriculum Framework* can be found in Part III of this booklet. It is important to note that these abridged versions list only the predominant Strand, Content Standard, and Student Learning Expectation associated with each item. However, since many key concepts within the Arkansas Curriculum Frameworks are interrelated, in many cases there are other item correlations or associations across Strands, Content Standards, and Student Learning Expectations.

Part III of the Released Item Booklet contains a tabular listing of the Strand, Content Standard, and Student Learning Expectation that each question was designed to assess. The multiple-choice and open-response items found on the *Grade 8 Augmented Benchmark Examination* were developed in close association with the Arkansas education community. Arkansas teachers participated as members of the Content Advisory Committee, for each subject area, providing routine feedback and recommendations for all items. The number of items associated with specific Strands, Content Standards, and Student Learning Expectations was based on approximate proportions suggested by the Content Advisory Committee, and their recommendations were accommodated to the greatest extent possible given the overall test design. Part III of the Released Item Booklet provides Arkansas educators with specific information on how the *Grade 8 Augmented Benchmark Examination* items align or correlate with the Arkansas Curriculum Frameworks to provide models for classroom instruction.

Read the passage. Then answer multiple-choice questions 1 through 8 and open-response Question A.

Excerpt from *Gold Dust*

by Chris Lynch

1 If I wasn't playing baseball I was watching it. And if I wasn't watching it in the real world I was watching it in my head. Napoleon and I had played so much repetitive two-man baseball, we were getting to know each other's game as well as we knew our own. He was beginning to learn how I would set him up with a couple of off-speed junky pitches, then try to sneak the third past him with a short-delivery fastball. We would go to the frozen field down off the parkway, or more often the defrosting, muddy field, with a duffel bag full of bruised, scarred, or waterlogged balls, and take turns emptying the bag on each other. I loved to hit still, and if I could there would be days when I never surrendered the bat to him, and I know that would have been fine with Napoleon too. Because he loved to throw.

He certainly loved to throw.

Napoleon Charlie Ellis could *throw* a baseball.

But I couldn't do that because that was not the plan. We could not be the Gold Dust Twins if we did not have well-rounded skills. People were already making fun of Jim Rice's fielding ability down there in Winter Haven, as if being able to hit a baseball from Florida to Georgia was not enough, and I was not going to let that happen to Napoleon.

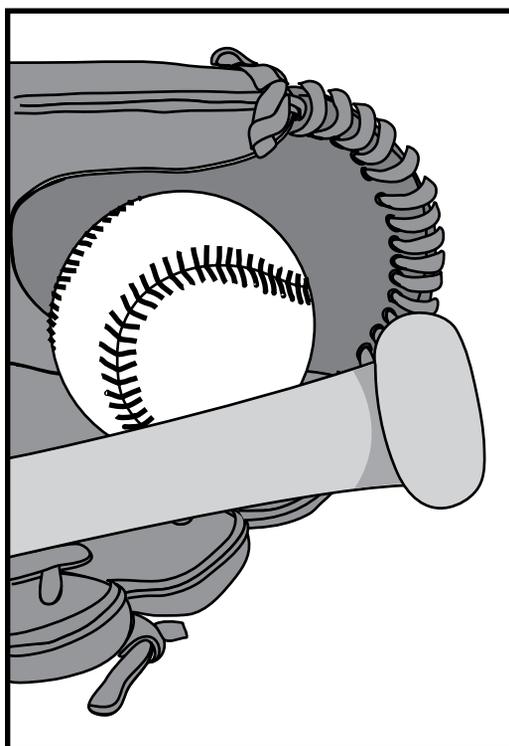
5 Fred Lynn could do *everything*, though. It was awesome.

Besides, we did ourselves so much good with our constant hit-and-pitch routine. I could see it every time out, as Napoleon's stroke got smoother, stronger, more controlled. I didn't have to guide him as much anymore but there were still occasions when I would step down off the mound and sidle next to him, showing him one small fine adjustment or another. Only there was this progression happening where with each attempt, I would find him a little stiffer, a little less pliable than before until, by the last time I

tried to help him, he had changed from the Gumby poseable figure I started out with into a bronze statue. His stance was his stance, and as I tried to get the tiniest of changes out of him, we locked into this struggle of will and muscle, Napoleon holding stubbornly steady, me trying to bend his left arm slightly . . . Napoleon stiffening . . . me bending . . . until . . . the bat fell away completely, I grabbed his shirt, he gave me a headlock . . . and the two of us toppled into the sloppy soupy mush of the batter's box.

We wrestled there for a few seconds, not to establish who was going to beat the other, certainly not to settle the batting-stance question, but to make sure neither of us got back up with one single patch of unmuddied clothes.

And the laughing made it even harder to get back up on our feet. We sat there for a few seconds.



“There,” I said. “Much better.”

I got up and headed back to the mound calmly.

“Next time,” Napoleon called, “I’ll come visit you out there and show *you* how to pitch.”

“Hah. That’ll be the day,” I said.

But really, I knew he very well could. I could swear that every day his fastball gained one more mile per hour.

He was already the hardest thrower I have ever seen.

“I have to tell you something, Richard,” he said as we went through our routine, combing the outfield together to gather up the balls for the next guy to pitch. We were playing till we dropped that day, and nobody was complaining but the balls. I had pitched a full bag already to Napoleon, and he had just finished doing the same for me. When we gathered up this bunch, we would start the whole thing over again. “I thought today was the day. I thought today you were not going to keep up.”

I stopped right there in my tracks, ankle deep in grassy mud. “You thought *I . . . ?*” I pulled one of the balls back out of the bag, held it up between us like that guy with the skull in *Hamlet*. “You know what this *is*? You know who *I* am?”

“Yes, I know you both,” he said dryly. “But I have been feeling so strong these last few days, as if the ball is simply going to go faster and faster every time. You know that feeling?”

Did I know it? I had often wondered if I would ever hear anyone else say what I thought so many times before. This was how I figured parents feel when their kids graduate or are born or get married or something. I nodded and went back to picking up balls.

“But every time, you catch up. You learn. You *make* yourself hit the ball when it appears that you are falling behind.”

I looked at him again, and spoke as seriously as I could. “I *really* want to hit that ball.”

“Yes, I can see that.”

“Thanks. You make me better.” I felt I couldn’t come up with any higher praise than that. Or any greater thanks.

“You actually do intend to play baseball for all your life, don’t you, Richard.”

We had now collected all the balls and were walking back toward the infield. We almost never spoke anymore when we were hitting, so this was our moment. I grew to like this bit very much. It would have been my favorite part of the entire drill, if hitting and pitching weren’t the other parts.

“Of course I’m going to play pro ball. The only people who don’t want to are the people who can’t. And you’re coming with me. We’re the Gold Dust Twins, remember.”

- 1** Which words in paragraph 1 help the reader understand that the meaning of repetitive is “repeating over and over”?
- A** was watching it
 - B** knew our own
 - C** had played
 - * **D** so much
- 2** In paragraph 1, what does Richard mean by the phrase “emptying the bag on each other”?
- A** collecting balls that are scattered on the field
 - * **B** pitching balls until they have all been used
 - C** using various types of balls while pitching
 - D** throwing away all of the damaged balls
- 3** The “duffel bag full of bruised, scarred, or waterlogged balls” symbolizes
- * **A** the difficult hours athletes put in to improve their performance.
 - B** the often unpleasant weather conditions that athletes must endure.
 - C** the distance that sometimes arises between two friends competing.
 - D** the physical hardship that every teen experiences as part of growing up.
- 4** The author includes the information in the first paragraph to
- A** suggest how a conflict in the story will be resolved.
 - B** explain how the narrator likes to trick the batter.
 - C** describe the field where most of the action occurs.
 - * **D** give background on the main characters.

- 5 The author italicizes the word “*everything*” in paragraph 5 to
- A indicate to the reader that a definition will follow.
 - B give the reader a hint of foreshadowing.
 - C show the reader the irony of the situation.
 - * D emphasize the word to the reader.

- 6 Based on information in the passage, the reader can conclude that Fred Lynn is **most likely**
- * A a skilled baseball player.
 - B an old friend of Napoleon.
 - C one of the Gold Dust Twins.
 - D a baseball coach in Winter Haven.

- 7 The illustration is **most likely** included in the passage to
- * A help the reader predict the topic of the story.
 - B clarify the sequence of events in the story.
 - C show the reader why the characters love baseball.
 - D give information about different sports equipment.

- 8 Which sentence from the story is the **best** indication of Richard’s feelings about baseball?
- * A If I wasn’t playing baseball I was watching it.
 - B I grew to like this bit very much.
 - C I could swear that every day his fastball gained one more mile per hour.
 - D I had often wondered if I would ever hear anyone else say what I thought so many times before.

Reading Item A—2012 Grade 8

- A** Explain how Richard’s conversation and actions involving Napoleon support the story’s theme of friendship. Use at least three details from the story to support your answer.

Reading Item A Scoring Rubric—2012 Grade 8

Score	Description
4	The response explains how Richard's conversation and actions involving Napoleon support the story's theme of friendship, and provides three accurate and relevant details from the passage describing these conversations and actions.
3	The response explains how Richard's conversations and actions involving Napoleon support the story's theme of friendship, and provides two details from the passage describing these conversations and actions.
2	The response explains how Richard's conversations and actions involving Napoleon support the story's theme of friendship, and provides one detail from the passage describing these conversations and actions.
1	The response explains how Richard's conversations and actions involving Napoleon support the story's theme of friendship. OR The response demonstrates minimal understanding of the question.
0	The response is totally incorrect and shows no evidence that the student understands the task. The response may be off topic or completely irrelevant.
B	Blank—No response. A score of "B" will be reported as "NA." (No attempt to answer the item. Score of "0" is assigned for the item.)

Read the passage. Then answer multiple-choice questions 9 through 16 and open-response question B.

Decorate For the Birds

by Rebecca Bull Reed

Winter’s frosty bite is a sure sign that it’s time to feed your feathered friends. Here’s a way to spread holiday cheer outdoors.

Scarlet red cardinals are the ultimate winter accent for your garden. To beckon these and other flying beauties, create an outdoor wreath, garland, or tree with edible ornaments.

- 2 “As temperatures drop, Southerners receive their first influx of hungry birds,” says Beverly Vogt, owner of Wild Birds Unlimited in Northport, Alabama. Each year, she hosts a decorating party for the fourth-grade class at nearby Tuscaloosa Academy to greet the winged arrivals. “Adding seedcakes, fresh fruit, and popcorn to outdoor decorations is an easy way to offer food this time of year,” she says. “And the kids have a blast making the ornaments.”

To keep your flying friends happy, Bev advises that you add more food to the decorations throughout the holiday season. When the ornaments come down, don’t stop feeding. Providing food and water on a regular basis is important, especially during severe weather. For more tips, read on.

- **Timing is everything**—Birds eat in the morning and afternoon. Go out during nonpeak hours to clean and refill feeders and water dishes.
- **Fit to eat**—Variety is just as important as quality. Start with a deluxe seed mix, and add favorites such as black oil sunflower seeds, slices of fruit, and peanuts. High-fat, high-calorie foods such as peanut butter and suet are energy packed and help keep birds warm. Before putting out bagged seeds, check the date on the package. Most lose nutritional value after one year.
- **Don't forget the water**—A good clean supply is essential for drinking and bathing, even during winter. Moving water is ideal because it stays fresh and can be heard by the birds from a distance. If weather is especially cold, add tepid water to dishes. Birds are vulnerable during bathing, so locate baths at least 6 feet from cover (such as shrubs and trees) to avoid attacks by other animals.
- **A place to call home**—Birdhouses are great, but shelter in the form of brush and shrubs works equally well, providing protection from the cold and predators. Birds start looking for new nesting sites around the first of the year. Yards with a variety of plantings are appealing, as they offer adequate shelter for raising young.



Birdseed Cookies

Makes 2 to 3 Dozen

While these treats may look delicious, they're just for your feathered friends.

2 cups all-purpose flour (plus additional flour for rolling out dough)

1/2 teaspoon baking powder

1/2 cup sugar

2/3 cup pure rendered suet

2 eggs

2/3 cup birdseed blend

Cookie cutters

Wooden pick

1 egg white, lightly beaten

1 cup birdseed blend

Ribbon, yarn, or twine

SIFT first 3 ingredients together. Cut in suet with fork until crumbly.

ADD 2 eggs, and mix together. Add 2/3 cup seed blend. Turn out onto a lightly floured surface; knead until smooth.

WRAP in wax paper, seal in plastic bag, and chill for at least 1 hour. Roll out on lightly floured surface to 1/4-inch thickness. Cut out with cookie cutters. Make hole with wooden pick about 1/8 inch from edge of cookie for hanging ornament. Brush cookies with egg white. Press 1 cup birdseed blend evenly on top of cookies. Place on ungreased baking sheet.

BAKE at 325° for 12 minutes or until cookies harden. Allow to cool. Attach ribbon to hang.

NOTE: Do not add salt. For testing purposes, we used Wild Birds Unlimited Simply Suet for rendered suet and Wild Birds Unlimited Deluxe Seed Blend for birdseed blend. Recipe was provided by Wild Birds Unlimited. For more visit southernliving.com/features.

- 9** The title of this passage suggests that it will be about
- A** a class trip.
 - * **B** a craft project.
 - C** a history lesson.
 - D** a science experiment.
- 10** When the author writes, “Scarlet red cardinals are the ultimate winter accent for your garden,” she is suggesting that
- A** cardinals are hard to please.
 - * **B** the birds themselves are decorations.
 - C** cardinals arrive before other birds.
 - D** wild birds help to keep a garden healthy.
- 11** Which of the following questions is answered in paragraph 2?
- A** What kinds of wild birds spend the winter in Alabama?
 - * **B** How can children get involved in caring for wild birds?
 - C** How many children attend the decorating party?
 - D** Which foods are dangerous for wild birds?
- 12** When the author writes in the bulleted section “Don’t forget the water” that “birds are vulnerable during bathing,” she means that the birds are
- * **A** at risk.
 - B** too wet.
 - C** far away.
 - D** very cold.
- 13** Which words **best** describe the sentence, “While these treats may look delicious, they’re just for your feathered friends”?
- A** an invitation
 - * **B** a gentle warning
 - C** a fond memory
 - D** a bold challenge
- 14** According to the passage, how thick will the birdseed cookies be before baking?
- A** 1/8 inch
 - * **B** 1/4 inch
 - C** 1/2 inch
 - D** 1 inch

15 What is the **best** subheading for the list appearing under the section titled “Birdseed Cookies”?

- A** Rules for Baking
- B** Where to Shop
- C** Mistakes to Avoid
- * **D** What You’ll Need

16 Which statement from the passage is a fact?

- A** Here’s a way to spread holiday cheer.
- B** And the kids have a blast making the ornaments.
- C** When the ornaments come down, don’t stop feeding.
- * **D** Birds eat in the morning and afternoon.

Reading Item B—2012 Grade 8

- B** What are two facts to consider when caring for birds during the winter? Using information from the passage, give an example for each fact as to why this is important.

Reading Item B Scoring Rubric—2012 Grade 8

Score	Description
4	The response identifies two facts about caring for birds in the winter and explains why each fact is important using information from the passage.
3	The response identifies two facts about caring for birds in the winter and explains why one of the facts is important using information from the passage.
2	The response identifies two facts about caring for birds in the winter. OR The response identifies one fact and explains why that fact is important using information from the passage.
1	The response identifies one fact about caring for birds in the winter. OR The response demonstrates minimal understanding of the question.
0	The response is totally incorrect and shows no evidence that the student understands the task. The response may be off topic or completely irrelevant.
B	Blank—No response. A score of "B" will be reported as "NA." (No attempt to answer the item. Score of "0" is assigned for the item.)

WRITING PROMPT

Your teacher has asked you to write about the proudest moment in your life.

Before you begin to write, think about a time you were proud. It could have been a time you did something that made you proud or when someone else did something that made you proud. What made you proud? **Why** did you feel proud?

Now write an essay about the proudest moment in your life. Give enough detail so that your teacher will understand what happened.

WRITER'S CHECKLIST

- | | |
|---|---|
| <p>1. Look at the ideas in your response.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Have you focused on one main idea? <input type="checkbox"/> Have you used enough detail to explain yourself? <input type="checkbox"/> Have you put your thoughts in order? <input type="checkbox"/> Can others understand what you are saying? <p>2. Think about what you want others to know and feel after reading your paper.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Will others understand how you think or feel about an idea? <input type="checkbox"/> Will others feel angry, sad, happy, surprised, or some other way about your response? (Hint: Make your reader feel like you do about your paper's subject.) <input type="checkbox"/> Do you have sentences of different lengths? (Hint: Be sure you have a variety of sentence lengths.) | <ul style="list-style-type: none"> <input type="checkbox"/> Are your sentences alike? (Hint: Use different kinds of sentences.) <p>3. Look at the words you have used.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Have you described things, places and people the way they are? (Hint: Use enough detail.) <input type="checkbox"/> Are you the same person all the way through your paper? (Hint: Check your verbs and pronouns.) <input type="checkbox"/> Have you used the right words in the right places? <p>4. Look at your handwriting.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Can others read your handwriting with no trouble? |
|---|---|

Domain Scoring Rubric

Content (C)

The Content domain includes the focusing, structuring, and elaborating that a writer does to construct an effective message for a reader. It is the creation of a product, the building of a composition intended to be read. The writer crafts his/her message for the reader by focusing on a central idea, providing elaboration of the central idea, and delivering the central idea and its elaboration in an organized text. Features are:

- Central idea
- Elaboration
- Unity
- Organization

Style (S)

The Style domain comprises those features that show the writer purposefully shaping and controlling language to affect readers. This domain focuses on the vividness, specificity, and rhythm of the piece and the writer's attitude and presence. Features are:

- Selected vocabulary
- Sentence variety
- Tone
- Voice
- Selected information

Sentence Formation (F)

The Sentence Formation domain reflects the writer's ability to form competent, appropriately mature sentences to express his/her thoughts. Features are:

- Completeness
- Absence of fused sentences
- Expansion through standard coordination and modifiers
- Embedding through standard subordination and modifiers
- Standard word order

Usage (U)

The Usage domain comprises the writer's use of word-level features that cause written language to be acceptable and effective for standard discourse. Features are:

- Standard inflections
- Agreement
- Word meaning
- Conventions

Mechanics (M)

The Mechanics domain includes the system of symbols and cueing devices a writer uses to help readers make meaning. Features are:

- Capitalization
- Punctuation
- Formatting
- Spelling

Scoring Scale

Each domain is scored independently using the following scale.

4 =The writer demonstrates **consistent**, though not necessarily perfect, control* of almost all of the domain's features.

3 =The writer demonstrates **reasonable**, but not consistent, control* of most of the domain's features, indicating some weakness in the domain.

2 =The writer demonstrates **inconsistent** control* of several of the domain's features, indicating significant weakness in the domain.

1 =The writer demonstrates **little** or **no** control* of most of the domain's features.

*Control: The ability to use a given feature of written language effectively at the appropriate grade level. A response receives a higher score to the extent that it demonstrates control of the features in each domain.

The application of the scale, using actual student writing, is done with the assistance of a committee of Arkansas teachers, language arts supervisors, and representatives of the Arkansas Department of Education.

Nonscoreable and Blank Papers

Nonscoreable papers include student responses that are off-topic, illegible, incoherent, written in a language other than English, or too brief to assess. Nonscoreable papers will receive a score of "0." Blank papers indicate no response was written and will be reported as NA (no attempt), which translates into a score of "0."

- 1** Read Anne’s partial outline for a report about the Olympic Games.

- II. History
- A. Olympic Games—776 b.c.
1. Reasons for Olympic Games
 2. Sporting events
 3. _____
- B. Olympic Games—1896–2008
1. Summer/Winter Olympics
 2. Sporting events
 3. International athletes
 4. _____
- III. Traditions
- A. Olympic flame
 - B. Ceremonies
 - C. _____
- IV. Olympic Winners
- A. Top individuals
 - B. Best nations
 - C. _____

Anne wants to include information about the five rings on the Olympic flag, which has flown regularly since the 1920 Olympic Games.

Where should the information be added?

- A** II. A. 3.
- B** II. B. 4.
- * **C** III. C.
- D** IV. C.

- 2** Read the paragraph.

Most dogs enjoy the company of human beings and appreciate any kind of attention. _____, cats have independent natures. Even cats that are family pets often ignore or reject affection from people.

Which transition **best** completes the sentence?

- A** At first
- B** In addition
- * **C** In contrast
- D** For instance

- 3** Which sentence is **most likely** to convince teachers to organize a field trip?

- A** We will have a lot of fun while we are away from school.
- B** It will take a great deal of organization for the field trip to occur.
- C** It is unlikely that everyone will return the permission slips on time.
- * **D** We will gain greater knowledge of local history by seeing it in person.

4 Read the poem.

Retreating on silent stocking feet,
Moonlight gracefully folds herself
away.
Gold and silver fingers briefly
entwine
As Moon makes way for Dawn.

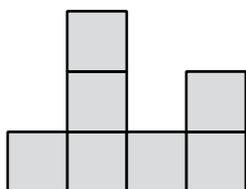
What tone does the author of the poem create?

- * **A** Calm
- B** Cheerful
- C** Regretful
- D** Nostalgic

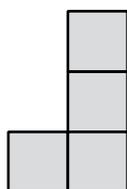
CALCULATOR NOT PERMITTED—ITEMS 1–6



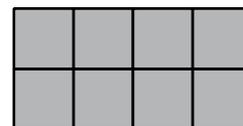
- 1 A student draws the front view, right view, and top view of a building.



Front View



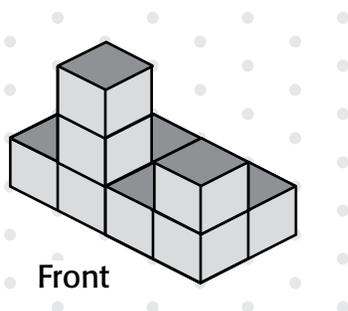
Right View



Top View

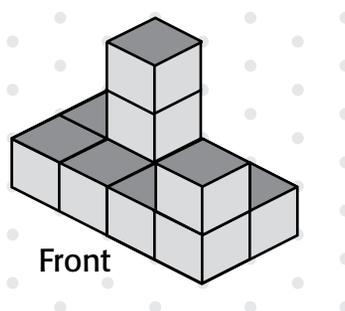
Which set of blocks could represent the building the student used to draw the different views?

A



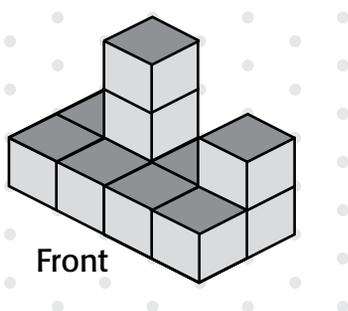
Front

B



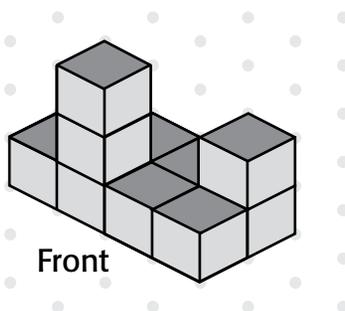
Front

* **C**



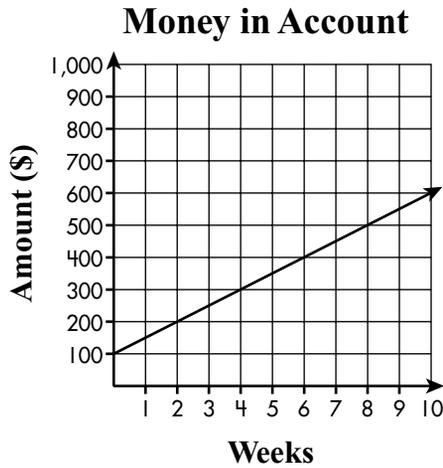
Front

D



Front

- 2** Karen opened a savings account. She made deposits as shown in the graph below.



What is represented by the point (0, 100)?

- * **A** the amount of money she opened the account with
 - B** the amount of money she deposited every 2 weeks
 - C** the total amount of money in the account after 1 week
 - D** the total amount of money in the account after 2 weeks
- 3** Between which two whole numbers is $\sqrt{82}$?
- A** 8 and 9
 - * **B** 9 and 10
 - C** 20 and 21
 - D** 40 and 41

- 4** What is the **best** first step in solving $\frac{m}{2.8} - 6 = 10.5$?

- A** Multiply m and 10.5 by 2.8.
- * **B** Add 6 to both sides of the equation.
- C** Subtract 6 from both sides of the equation.
- D** Subtract 10.5 from both sides of the equation.

- 5** A polynomial is shown below.

$$3x^2 - x^2 + y - 2y + y^2$$

Which of the following shows the polynomial in simplified form?

- A** $2x^2$
- B** $y^2 - y + 3$
- * **C** $2x^2 - y + y^2$
- D** $y^3 + 2x^2 - 2y$

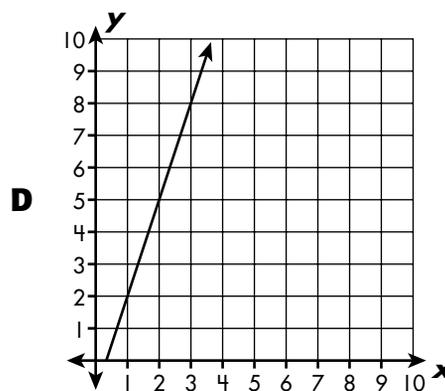
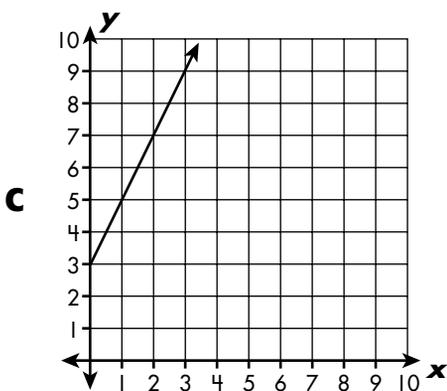
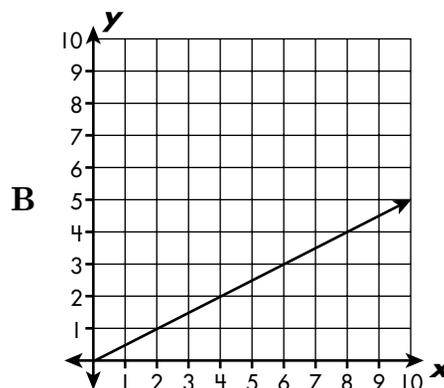
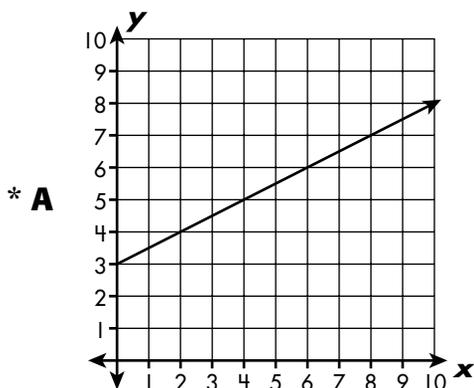
- 6** Sandra is conducting an experiment for a project on probability for her mathematics class. Which of the following number of trials of her experiment would make her data the **most** reliable?

- A** 5
- B** 50
- C** 500
- * **D** 5000

CALCULATOR PERMITTED—ITEMS 7–20 and A–C

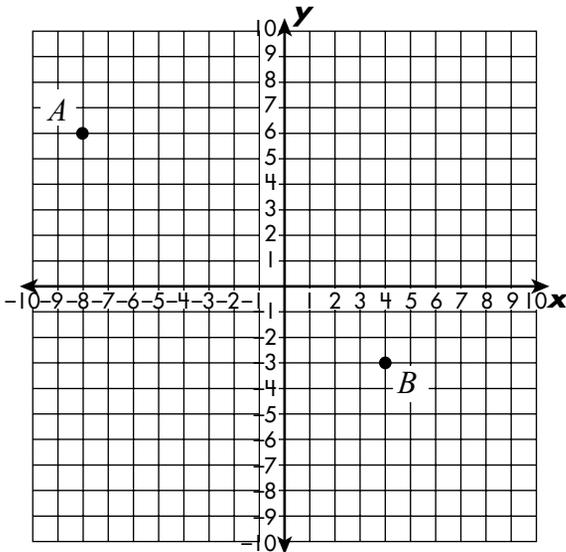


7 Which is the graph of $y = \frac{1}{2}x + 3$?



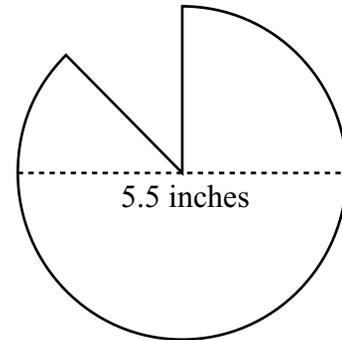
- 8** The gift shop at the nature center is a cylinder with a cone-shaped ceiling. The radius of the gift shop floor is 20 feet and the height of the cylinder is 10 feet. The height of the cone is 12 feet. What is the volume of the gift shop? Use 3.14 for π .
- A** 5,024 cubic feet
B 9,211 cubic feet
C 12,560 cubic feet
* **D** 17,584 cubic feet
- 9** Sean moved to a city that is 1.1×10^3 miles from his grandparents' city. He then moved 200 miles closer to his grandparents' city. What is the new distance written in scientific notation?
- A** 1.1×10^1
* **B** 9×10^2
C 1.3×10^3
D 9×10^3
- 10** Mindy rolled a 6-sided number cube and flipped a coin. What is the probability that the cube lands on 6 and the coin lands on tails?
- * **A** $\frac{1}{12}$
B $\frac{1}{8}$
C $\frac{1}{6}$
D $\frac{1}{4}$

- 11** What is the distance between Point *A* and Point *B* shown below?



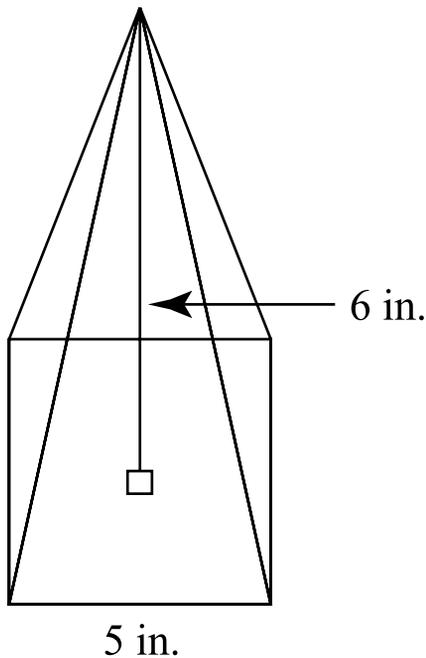
- A** 5 units
- B** 12.4 units
- * **C** 15 units
- D** 18 units

- 12** What is the **approximate** area of the shape shown below?



- A** 15.1 square inches
 - * **B** 20.8 square inches
 - C** 23.7 square inches
 - D** 30.2 square inches
- 13** Jack noticed a pattern when working with the sum of the angles of a convex polygon. The interior angles of a 3-sided polygon add up to 180° . The interior angles of a 4-sided polygon add up to 360° . The interior angles of a 5-sided polygon add up to 540° . What will the interior angles of a 7-sided polygon add up to?
- A** 540°
 - B** 720°
 - C** 880°
 - * **D** 900°

- 14** The track coach handed out trophies at the sports banquet. Each trophy is the shape of the square pyramid shown below.



What is the volume of each trophy?

- * **A** 50 cubic inches
- B** 60 cubic inches
- C** 75 cubic inches
- D** 150 cubic inches

- 15** What is the 7th term in the pattern below?

1, 3, 7, 15, 31,

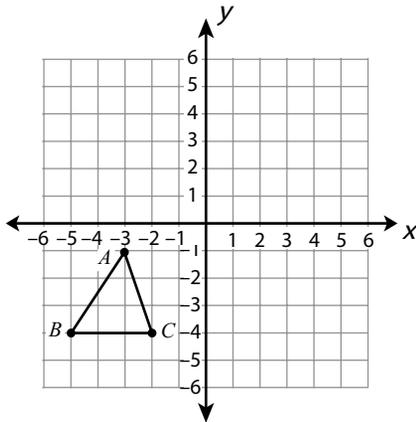
- A** 46
- B** 47
- C** 63
- * **D** 127

- 16** Patricia wants to shrink the size of an image on a poster. The image has a length of 35 centimeters and a width of 28 centimeters. The shrunken image will be similar to the original image and has a width of 9 centimeters.

What will be the length of the shrunken image?

- A** 2 centimeters
- B** 7.2 centimeters
- * **C** 11.25 centimeters
- D** 16 centimeters

- 17** In the coordinate plane below, triangle ABC is flipped over a line of symmetry. The coordinates of the reflection are $A'(1, -1)$; $B'(3, -4)$; $C'(0, -4)$.

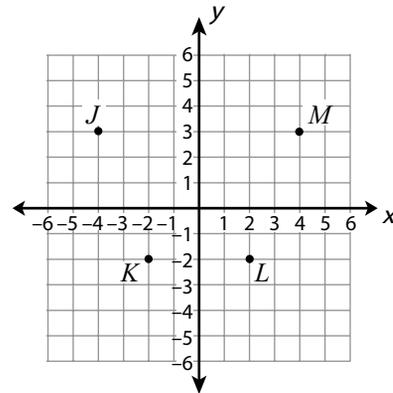


What is the line of symmetry for the transformation?

- A** $x = 1$
 - * **B** $x = -1$
 - C** $y = 1$
 - D** $y = -1$
- 18** Which segment is 1.6875 inches long?

- A** _____
- * **B** _____
- C** _____
- D** _____

- 19** The coordinates for the vertices of trapezoid $JKLM$ are shown below.

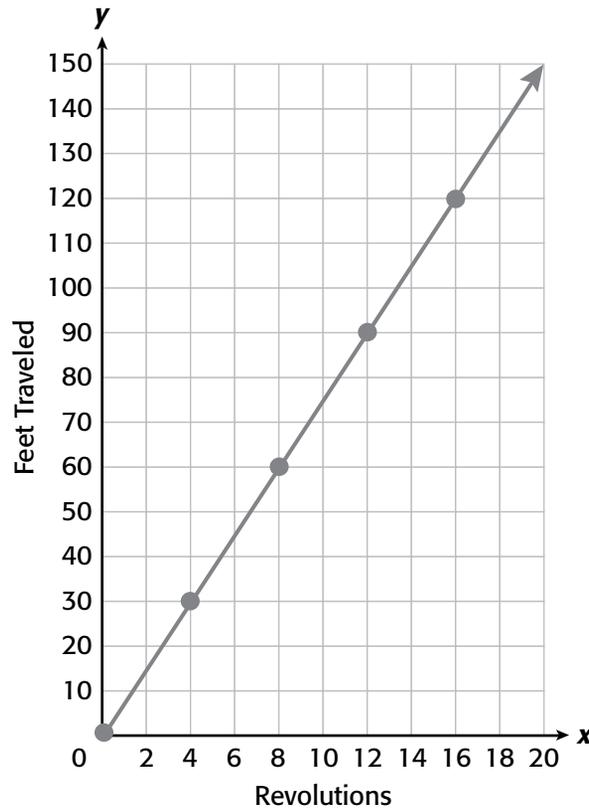


If the midpoint is placed between points J and M , what is the distance between point M and the midpoint?

- A** 0 units
 - B** 2 units
 - C** 3 units
 - * **D** 4 units
- 20** Terry made a square-shaped picture frame with an area of 196 square inches. What is the length of one side of his frame?
- * **A** 14 inches
 - B** 28 inches
 - C** 49 inches
 - D** 98 inches

Mathematics Item A—2012 Grade 8

- A** The distance Jeff travels on his bicycle can be related to the number of revolutions the wheel of his bicycle makes. The following graph shows this relationship.



1. Write an equation that represents this relationship. Be sure to define the variables you use in your equation.
2. What is the value of the slope of the graph? Show your work or explain how you got your answer.
3. Describe what the slope in this context represents.
4. Use your equation to determine the number of revolutions the wheel makes when Jeff has traveled a total of 180 feet. Show your work or explain how you got your answer.

BE SURE TO LABEL YOUR RESPONSES 1, 2, 3, AND 4.

Mathematics Item A Scoring Rubric—2012 Grade 8

Score	Description
4	The student earns 4 points. The response contains no incorrect work.
3	The student earns 3 - 3½ points.
2	The student earns 2 - 2½ points.
1	The student earns ½ - 1½ points, or some minimal understanding is shown.
0	The student earns 0 points. No understanding is shown.
B	Blank – No Response. A score of “B” will be reported as “NA.” (No attempt to answer the item. Score of “0” is assigned for the item.)

Solution and Scoring

Part	Points
1	<p>1 point possible:</p> <p>1 point: Correct equation with variables defined Ex. $y = 7.5x$; $y =$ feet traveled, $x =$ revolutions</p> <p>OR</p> <p>½ point: Both variables defined with an incorrect equation</p>
2	<p>1 point possible:</p> <p>1 point: Correct slope with work shown or explanation. Work can be from Part 1 Ex. 7.5 or equivalent; $\frac{30}{4} = 7.5$ $\frac{15}{2} = 7.5$ $\frac{30}{4} = \frac{15}{2}$</p> <p>OR</p> <p>½ point: Correct slope without work or explanation</p>
3	<p>1 point possible:</p> <p>1 point: Correct description of the slope Ex. 1 revolution = 7.5 feet or “How many ft Jeff has travelled in x revolutions”</p> <p>OR</p> <p>½ point: Incomplete description of the slope</p>
4	<p>1 point possible:</p> <p>1 point: Correct answer with work shown or explanation Ex. $x = 24$; $180 = 7.5x$, $\frac{180}{7.5} = \frac{7.5x}{7.5}$</p> <p>OR</p> <p>1 point: Correct answer based on an incorrect equation from part 1 with work or explanation shown</p> <p>OR</p> <p>½ point: Correct answer without work or explanation</p>

Mathematics Item B—2012 Grade 8
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- B** A builder is renovating an office building. He is using a blueprint in which a scale of 0.75 inch represents 3 feet.
- The height of the building in the blueprint is 20.25 inches. How tall is the actual building? Show your work or explain your answer.
 - The area of one square room in the building will be 144 square feet. What is the area of the room on the blueprint? Show your work or explain your answer.

BE SURE TO LABEL YOUR RESPONSES 1 AND 2.

Mathematics Item B Scoring Rubric—2012 Grade 8

Score	Description
4	The student earns 4 points. The response contains no incorrect work.
3	The student earns 3 - 3½ points.
2	The student earns 2 - 2½ points.
1	The student earns ½ - 1½ points, or some minimal understanding is shown.
0	The student earns 0 points. No understanding is shown.
B	Blank – No Response. A score of “B” will be reported as “NA.” (No attempt to answer the item. Score of “0” is assigned for the item.)

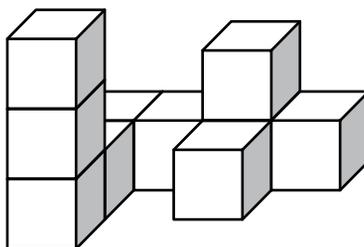
Solution and Scoring

Part	Points
1	<p>2 points possible:</p> <p>2 points: Correct answer and correct explanation shown Ex. 81 feet, 972 inches, 27 yards; $\frac{20.25}{x} = \frac{.75}{3}$ Ex. $20.25 \times 3 = 60.75$, $60.75 = .75x$, $\frac{60.75}{.75} = 81$</p> <p>OR</p> <p>1½ points: Correct numerical answer with a correct explanation. The answer has incorrect units.</p> <p>OR</p> <p>1 point: Correct answer with an incomplete, incorrect or missing explanation</p> <p>or</p> <p>Correct explanation with arithmetic error</p> <p>OR</p> <p>½ point: Correct answer with missing or incorrect units</p>

Part	Points
2	<p>2 points possible:</p> <p>2 points: Correct answer and correct explanation shown Ex. $A = 9 \text{ inches}^2; \frac{x}{12} = \frac{.75}{3}$ Ex. $A = 144 \text{ feet}^2 = s^2, s = 12 \text{ feet},$ $.75 \times 12 = 9, \frac{9}{3} = 3, 3^2 = 9$</p> <p>OR</p> <p>1½ points: Correct numerical answer with a correct explanation. The answer has incorrect units.</p> <p>OR</p> <p>1 point: Correct answer with an incomplete, incorrect or missing explanation</p> <p>Or</p> <p>Correct explanation with arithmetic error</p> <p>OR</p> <p>½ point: Correct answer with missing or incorrect units</p>

Mathematics Item C—2012 Grade 8
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- C** Below is a picture of a model made of cubes.



Front

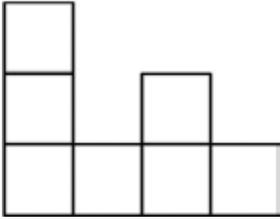
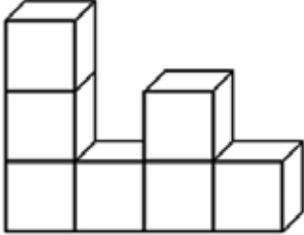
1. Draw the front view of the model.
2. Draw the right side view of the model.
3. Draw the left side view of the model.
4. Draw the back view of the model.

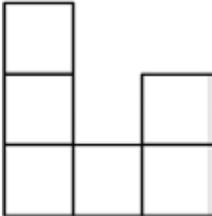
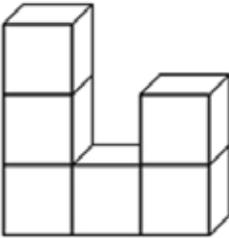
BE SURE TO LABEL YOUR RESPONSES 1, 2, 3, AND 4.

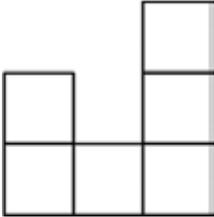
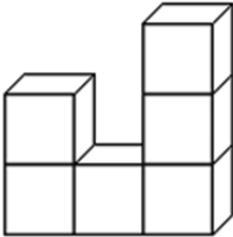
Mathematics Item C Scoring Rubric—2012 Grade 8

Score	Description
4	The student earns 4 points. The response contains no incorrect work.
3	The student earns 3 - 3½ points.
2	The student earns 2 - 2½ points.
1	The student earns ½ - 1½ points, or some minimal understanding is shown.
0	The student earns 0 points. No understanding is shown.
B	Blank – No Response. A score of “B” will be reported as “NA.” (No attempt to answer the item. Score of “0” is assigned for the item.)

Solution and Scoring

Part	Points
1	<p data-bbox="304 323 533 352">1 Possible Point:</p> <p data-bbox="400 390 1129 420">1 Point: Correctly draws the front view of the model.</p>  <p data-bbox="400 716 443 745">OR</p> <p data-bbox="400 814 1369 877">½ point: Correctly drawn face of the front view with additional cubing to one block depth only</p> 

Part	Points
2	<p>1 Point Possible:</p> <p>1 Point: Correctly draws the right side view of the model.</p>  <p>OR</p> <p>½ point: Correctly drawn face of the right side view with additional cubing to one block depth only</p> 

Part	Points
3	<p>1 Point Possible:</p> <p>1 Point: Correctly draws the left side view of the model.</p> <div style="text-align: center;">  </div> <p>OR</p> <p>½ point: Correctly drawn face of the left side view with additional cubing to one block depth only</p> <div style="text-align: center;">  </div>

Part	Points
4	<p data-bbox="304 268 533 300">1 Point Possible:</p> <p data-bbox="400 365 1126 396">1 Point: Correctly draws the back view of the model.</p> <div data-bbox="683 411 963 630" style="text-align: center;"> </div> <p data-bbox="400 688 443 720">OR</p> <p data-bbox="400 785 1366 852">½ point: Correctly drawn face of the back view with additional cubing to one block depth only</p> <div data-bbox="695 873 995 1113" style="text-align: center;"> </div>

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Mathematics Reference Sheet Grade 8

Use the information below, as needed, to answer questions on the Mathematics test.

Square Area = s^2 Perimeter = $4s$	Rectangle Area = lw Perimeter = $2(l + w)$	Triangle Area = $\frac{1}{2}bh$ Perimeter = $a + b + c$
Circle Area = πr^2 Circumference = $2\pi r$	Parallelogram Area = bh Perimeter = $2a + 2b$	Equilateral Triangle Perimeter = $3s$
Cube Volume = s^3	Cone Volume = $\frac{1}{3}\pi r^2 h$ Surface Area = $\pi rl + \pi r^2$ Slant Height = l	Rectangular Prism Volume = lwh
Pyramid Volume = $\frac{1}{3}(\text{area of base})h$	Sphere Volume = $\frac{4}{3}\pi r^3$ Surface Area = $4\pi r^2$	Cylinder Volume = $\pi r^2 h$ Surface Area = $2\pi rh + 2\pi r^2$
Miscellaneous Formulas and Conversions Sum of interior angles of a polygon having n sides: $(n - 2)180^\circ$ Slope of (non-vertical) line: $m = \frac{y_2 - y_1}{x_2 - x_1}$ Distance between points on a coordinate plane: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ Midpoint: $\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2}\right)$		Trapezoid Area = $\frac{1}{2}h(b_1 + b_2)$

1 foot = 12 inches
 1 yard = 3 feet
 1 mile = 5,280 feet

$\pi \approx 3.14$

1 cup = 8 ounces (oz)
 1 pint = 2 cups
 1 quart = 2 pints
 1 gallon = 4 quarts

1 kilogram = 1000 grams
 1 meter = 100 centimeters
 1 decimeter = 10 centimeters
 1 centimeter = 10 millimeters
 1 kilometer = 1000 meters
 1 liter = 1000 milliliters

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 Arkansas Department of Education April 2011.



The Arkansas English Language Arts Curriculum Framework—Reading Strand*

Content Standards	Student Learning Expectations
<p>9. Comprehension: Students shall apply a variety of strategies to read and comprehend printed material.</p>	<p>1. Use previewing, activating prior knowledge, predicting content of text, formulating questions, and establishing purposes for reading. 8. Infer a character's role in development of plot and theme. 9. Infer mood and theme of text. 10. Use literary elements and historical context to infer author's intent. 13. Distinguish among stated fact, reasoned judgment, and opinion in text. 15. Identify main ideas and supporting evidence in short stories and novels. 16. Use the <i>text features</i> to locate and recall information, with emphasis on text organizers. 19. Use skimming, scanning, note-taking, outlining, and questioning as study strategies. 22. Evaluate personal, social, and political issues as presented in text.</p>
<p>10. Variety of Texts: Students shall read, examine, and respond to a wide range of texts for a variety of purposes.</p>	<p>4. Examine the author's credibility, use of text structure, word choice, and viewpoint to evaluate message. 5. Use skimming, scanning, note taking, outlining, and questioning as study strategies. 12. Read and utilize functional <i>practical texts</i>, including manuals, memos, job applications, and career guides.</p>
<p>11. Vocabulary, Word Study, and Fluency: Students shall acquire and apply skills in vocabulary development and word analysis to be able to read fluently.</p>	<p>1. Automatically decode words to ensure focus on comprehension. 5. Use context to determine meaning of multiple meaning words. 10. Use context, structure, denotations and connotations to determine meaning of words and phrases.</p>

* The Content Standards and Student Learning Expectations listed are those that specifically relate to the released and non-released test items in this booklet

Released Items for Reading*

Item	Strand	Content Standard	Student Learning Expectation
1	R	11	5
2	R	11	10
3	R	9	10
4	R	9	10
5	R	9	16
6	R	9	8
7	R	9	1
8	R	9	15
A	R	9	8
9	R	9	1
10	R	10	4
11	R	9	19
12	R	11	1
13	R	10	12
14	R	10	5
15	R	9	16
16	R	9	13
B	R	9	13

* Only the predominant Strand, Content Standard, and Student Learning Expectation are listed for the English Language Arts items.

Non-Released Items for Reading*

Strand	Content Standard	Student Learning Expectation
R	11	5
R	10	5
R	11	5
R	10	4
R	10	5
R	9	13
R	9	9
R	9	22
R	10	4

* Only the predominant Strand, Content Standard, and Student Learning Expectation are listed for the English Language Arts items.

PART III Item Correlation with Curriculum Framework—Grade 8

The Arkansas English Language Arts Curriculum Framework—Writing Strand*

Content Standards	Student Learning Expectations
4. Process: Students shall employ a wide range of strategies as they write, using the writing process appropriately.	<p>2. Organize ideas by using such graphic organizers as charts/graphs, and formal outlining with main topics, sub-topics, and details.</p> <p>10. Edit individually or in groups for appropriate grade-level conventions, within the following features:</p> <ul style="list-style-type: none"> • <i>Sentence formation</i> <ul style="list-style-type: none"> • Completeness • Absence of fused sentences • Expansion through standard coordination and modifiers • <i>Embedding</i> through standard subordination and modifiers • Standard word order • <i>Usage</i> <ul style="list-style-type: none"> • Standard inflections • Agreement • Word meaning • Conventions • <i>Mechanics</i> <ul style="list-style-type: none"> • Capitalization • Punctuation • Formatting • Spelling
5. Purpose, Topics, Forms and Audiences: Students shall demonstrate competency in writing for a variety of purposes, topics, and audiences employing a wide range of forms.	3. Create <i>expository</i> , narrative, descriptive, and persuasive writings.
6. Conventions: Students shall apply knowledge of Standard English conventions in written work.	<p>6. Apply conventions of grammar with emphasis on the following:</p> <p>Subject-verb agreement</p> <p>Parts of speech</p> <p>Pronoun and antecedent agreement</p> <p>Parts of a sentence and <i>sentence patterns</i></p> <p style="padding-left: 20px;">S-V</p> <p style="padding-left: 20px;">S-V-DO</p> <p style="padding-left: 20px;">S-V-IO-DO</p> <p style="padding-left: 20px;">S-LV-PN</p> <p style="padding-left: 20px;">S-LV-PA</p> <p>Conjugation in regular, progressive, and emphatic verb forms</p> <p>Verbals</p> <p>7. Spell words correctly in all writing.</p> <p>9. Apply conventional rules of punctuation in writing.</p>
7. Craftsmanship: Students shall develop personal style and voice as they approach the craftsmanship of writing.	<p>4. Use transition words/ phrases.</p> <p>5. Use purposeful vocabulary with emphasis on developing <i>tone</i>.</p>

* The Content Standards and Student Learning Expectations listed are those that specifically relate to the released and non-released test items in this booklet

Released Items for Writing*

Item	Strand	Content Standard	Student Learning Expectation
1	W	4	2
2	W	7	4
3	W	5	3
4	W	7	5

* Only the predominant Strand, Content Standard, and Student Learning Expectation are listed for the Writing items.

Non-Released Items for Writing*

Strand	Content Standard	Student Learning Expectation
W	6	7
W	6	9
W	6	6
W	4	10

* Only the predominant Strand, Content Standard, and Student Learning Expectation are listed for the Writing items.

The Arkansas Mathematics Curriculum Framework*

Strands	Content Standards	Student Learning Expectations
1—Number and Operations (NO)	1. Number Sense: Students shall understand numbers, ways of representing numbers, relationships among numbers and number systems.	1. Read, write, compare and solve problems, with and without appropriate <i>technology</i> , including numbers less than 1 in <i>scientific notation</i> . 2. Convert between <i>scientific notation</i> and standard <i>notation</i> , including numbers from zero to one. 3. Compare and order <i>real numbers</i> including <i>irrational numbers</i> and find their approximate location on a number line (Use <i>technology</i> when appropriate).
	2. Properties of Number Operations: Students shall understand meanings of operations and how they relate to one another.	1. Apply the addition, subtraction, multiplication and division properties of equality to two-step <i>equations</i> . 3. Use <i>inverse</i> relationships (addition and subtraction, multiplication and division, squaring and <i>square roots</i>) in problem solving situations.
	3. Numerical Operations and Estimation: Students shall compute fluently and make reasonable estimates.	2. Solve, with and without appropriate <i>technology</i> , multi-step problems using a variety of methods and tools (i.e. objects, mental computation, paper and pencil). 3. Use <i>estimation</i> to solve problems involving <i>rational numbers</i> ; including <i>ratio</i> , <i>proportion</i> , <i>percent</i> (increase or decrease) then judge the reasonableness of solutions. 5. Calculate and find approximations of <i>square roots</i> with appropriate <i>technology</i> . 6. Solve, with and without <i>technology</i> , real world <i>percent</i> problems including <i>percent</i> of increase or decrease.
2—Algebra (A)	4. Patterns, Relations, and Functions: Students shall recognize, describe, and develop patterns, relations, and functions.	1. Find the n^{th} term in a <i>pattern</i> or a <i>function</i> table
	5. Algebraic Representations: Students shall represent and analyze mathematical situations and structures, using algebraic symbols.	1. Solve and graph two-step <i>equations</i> and <i>inequalities</i> with one <i>variable</i> and verify the reasonableness of the result with real world application with and without <i>technology</i> . 2. Solve and graph <i>linear equations</i> (in the form $y=mx+b$). 3. Translate sentences into <i>algebraic equations</i> and <i>inequalities</i> and combine like terms within <i>polynomials</i> . 4. Write and evaluate <i>algebraic expressions</i> using <i>rational numbers</i> .
	6. Algebraic Models: Students shall develop and apply mathematical models to represent and understand quantitative relationships.	1. Describe, with and without appropriate <i>technology</i> , the relationship between the graph of a line and its equation, including being able to explain the meaning of slope as a constant rate of change (rise/run) and <i>y-intercept</i> in real world problems.
	7. Analysis of Change: Students shall analyze change in various contexts.	1. Use, with and without <i>technology</i> , graphs of real life situations to describe the relationships and analyze change including graphs of change (cost per minute) and graphs of accumulation (total cost).

* The Content Standards and Student Learning Expectations listed are those that specifically relate to the released and non-released test items in this booklet

The Arkansas Mathematics Curriculum Framework* (continued)

Strands	Content Standards	Student Learning Expectations
3—Geometry (G)	8. Geometric Properties: Students shall analyze characteristics and properties of 2- and 3-dimensional geometric shapes and develop mathematical arguments about geometric relationships.	<ol style="list-style-type: none"> 1. Form generalizations and validate conclusions about properties of geometric shapes. 2. Make, with and without appropriate <i>technology</i>, and test <i>conjectures</i> about characteristics and properties between <i>two-dimensional</i> figures and <i>three-dimensional</i> objects. Ex. circle vs. cylinder, square vs. <i>cube</i>. 3. Determine appropriate application of geometric ideas and relationships, such as <i>congruence</i>, similarity, and the <i>Pythagorean theorem</i>, with and without appropriate <i>technology</i>.
	9. Transformation of Shapes: Students shall apply transformations and the use of symmetry to analyze mathematical situations.	<ol style="list-style-type: none"> 1. Determine a <i>transformation's line of symmetry</i> and compare the properties of the figure and its <i>transformation</i>. 2. Draw the results of <i>translations</i> and <i>reflections</i> about the x- and y-axis and <i>rotations</i> of objects about the origin.
	10. Coordinate Geometry: Students shall specify locations and describe spatial relationships, using coordinate geometry and other representational systems.	<ol style="list-style-type: none"> 1. Use coordinate geometry to explore the links between geometric and algebraic representations of problems (lengths of segments/distance between points, <i>slope/perpendicular-parallel lines</i>).
	11. Visualization and Geometric Models: Students shall use visualization, spatial reasoning, and geometric modeling.	<ol style="list-style-type: none"> 1. Using isometric dot paper interpret and draw different views of buildings.
4—Measurement (M)	12. Physical Attributes: Students shall use attributes of measurement to describe and compare mathematical and real-world objects.	<ol style="list-style-type: none"> 1. Understand, select and use, with and without appropriate <i>technology</i>, the appropriate units and tools to measure angles, <i>perimeter</i>, <i>area</i>, <i>surface area</i> and <i>volume</i> to solve real world problems.
	13. Systems of Measurement: Students shall identify and use units, systems, and processes of measurement.	<ol style="list-style-type: none"> 1. Draw and apply measurement skills with <i>fluency</i> to appropriate levels of precision. 2. Solve problems involving <i>volume</i> and <i>surface area</i> of <i>pyramids</i>, <i>cones</i> and composite figures, with and without appropriate <i>technology</i>. 3. Apply proportional reasoning to solve problems involving indirect measurements, scale drawings or rates. 4. Find the distance between two points on a <i>coordinate plane</i> using with the <i>Pythagorean theorem</i>. 5. Estimate and compute the <i>area</i> of irregular <i>two-dimensional</i> shapes.
5—Data Analysis and Probability (DAP)	14. Data Representation: Students shall formulate questions that can be addressed with data and collect, organize and display relevant data to answer them.	<ol style="list-style-type: none"> 3. Interpret or solve real world problems using data from charts, <i>line plots</i>, <i>stem-and leaf plots</i>, <i>double-bar graphs</i>, <i>line graphs</i>, <i>box-and whisker plots</i>, <i>scatter plots</i>, <i>frequency tables</i> or <i>double line graphs</i>.
	15. Data Analysis: Students shall select and use appropriate statistical methods to analyze data.	<ol style="list-style-type: none"> 1. Compare and contrast the reliability of data sets with different size populations Ex. 40/80 vs. 40/800 2. Analyze, with and without appropriate <i>technology</i>, graphs by comparing measures of <i>central tendencies</i> and <i>measures of spread</i>. 3. Given at least one of the measures of <i>central tendency</i> create a data set. 4. Describe how the inclusion of <i>outliers</i> affects those measures.
	17. Probability: Students shall understand and apply basic concepts of probability.	<ol style="list-style-type: none"> 1. Compute, with and without appropriate <i>technology</i>, probabilities of compound events, using organized lists, <i>tree diagrams</i> and <i>logic grid</i>.

* The Content Standards and Student Learning Expectations listed are those that specifically relate to the released and non-released test items in this booklet

Released Items for Mathematics*

Item	Strand	Content Standard	Student Learning Expectation
1	G	11	1
2	A	6	1
3	N	3	5
4	N	2	1
5	A	5	3
6	D	15	1
7	A	5	2
8	M	13	2
9	N	1	1
10	D	17	1
11	M	13	4
12	M	13	5
13	G	8	1
14	M	13	2
15	A	4	1
16	G	8	3
17	G	9	1
18	M	13	1
19	G	10	1
20	N	2	3
A	A	7	1
B	M	13	3
C	G	11	1

* Only the predominant Strand, Content Standard, and Student Learning Expectation are listed for the Mathematics items.

Non-Released Items for Mathematics*

Strand	Content Standard	Student Learning Expectation
D	15	4
G	9	2
N	3	6
D	17	1
D	15	2
G	8	2
N	1	2
N	1	3
N	3	2
N	3	3
N	3	6
A	4	1
A	5	1
A	5	4
A	6	1
A	7	1
G	8	3
M	12	1
M	13	3
D	14	3
D	15	3
D	17	1

* Only the predominant Strand, Content Standard, and Student Learning Expectation are listed for the Mathematics items.

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