

ACTAAP

Arkansas Comprehensive Testing, Assessment, and Accountability Program

RELEASED ITEM

BOOKLET

GRADE 6

AUGMENTED BENCHMARK EXAMINATION

April 2014

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Arkansas Department of Education

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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 6 students in Arkansas public schools participated in the *Grade 6 Augmented Benchmark Examination* in April 2014.

This Released Item Booklet for the *Grade 6 Augmented Benchmark Examination* contains test questions or items that were asked of students during the April 2014 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 2014. Students were permitted to use a calculator for the mathematics items (both multiple-choice and open-response items), with the exception of mathematics questions 1–2 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 38 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 6 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 6 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 6 Augmented Benchmark Examination* items align or correlate with the Arkansas Curriculum Frameworks to provide models for classroom instruction.

PART I Scoring Student Responses to Open-Response Items

While multiple-choice items are scored by machine to determine if the student chose the correct answer from four options, responses to open-response items must be scored by trained “readers” using a pre-established set of scoring criteria.

The Arkansas Benchmark Rangefinding Committee assisted in the development of the scoring criteria. The committee comprises active Arkansas educators with expertise in math, English, and/or language arts education.

Reader Training

Readers are trained to score only one content area. Qualified readers for Arkansas scoring will be those with a four-year college degree in math, English, language arts, education, or related fields.

Before readers are allowed to begin assigning scores to any student responses, they go through intensive training. The first step in that training is for the readers to read the writing prompt, the math open-response item, or the reading passage and its open-response item as it appeared in the test booklet and to respond—just as the student test takers are required to do. This step gives the readers some insight into how the students might have responded. The next step is the readers’ introduction to the scoring rubric. All of the specific requirements of the rubric are explained by the Scoring Director who has been specifically trained to lead the scoring group. Then, responses (anchor papers) that illustrate the score points of the rubric are presented to the readers and discussed. The goal of this discussion is for the readers to understand why a particular response (or type of response) receives a particular score. After discussion of the rubric and anchor papers, readers practice scoring sets of responses that have been pre-scored and selected for use as training papers. Detailed discussion of the responses and the scores they receive follows.

After three or four of these practice sets, readers are given “qualifying rounds.” These are additional sets of pre-scored papers, and, in order to qualify, each reader scoring responses must score in exact agreement on at least 80% of the responses, and each reader scoring writing responses must score in exact agreement with 70% of the responses in each domain. Readers who do not score within the required rate of agreement are not allowed to score the *Grade 6 Augmented Benchmark Examination* responses.

Once scoring of the actual student responses begins, readers are monitored constantly throughout the project to ensure that they are scoring according to the criteria. Daily and cumulative statistics are posted and analyzed, and the Scoring Director or Team Leaders reread selected responses scored by the readers. These procedures promote reliable and consistent scoring. Any reader who does not maintain an acceptable level of agreement is dismissed from the project.

Scoring Procedures

All student responses to the *Grade 6 Augmented Benchmark Examination* open-response test items are scored independently by two readers. Those two scores are compared, and responses that receive scores that are non-adjacent (a “1” and a “3,” for example) are scored a third time by a Team Leader or the Scoring Director for resolution.

The Old Apple Tree

by Adriana Devoy
illustrated by Bev Simon

1 I can't remember a time when the old apple tree wasn't outside my window. Every spring it was there, growing pink and white flowers striped like the swirls of strawberry-vanilla ice cream. The petals felt soft as butterfly wings. Those flowers smelled sweeter than any perfume. The scent would slip through the screen of my bedroom window and sneak up to tickle my nose.



In the summer, the flowers dropped off to make way for the apples. The apples were never good enough to eat. They were small, hard, and green. Sometimes the insides were brown. We had to buy apples at the farm down the road. Since no one picked our apples, they fell off by themselves and squished onto the ground. I'd have to rake them into a pile once a week. But I didn't mind because Grandpa said the tree was sick.

I asked how we could make our tree better.

"Don't think we can, Andie," Grandpa said. "That tree is real old."

I asked, "How old?"

"I don't exactly know," he said. "But that tree was there when I was a boy, and when my pa was a boy. Your father thinks we should chop it down."

"No, Grandpa!" I panicked. "Just because something's old doesn't mean you should get rid of it." Grandpa seemed to agree because he patted my hand and smiled.

Sometimes when I was done raking the apples, I'd pick up a few that were still whole and practice my throwing. I got so good that soon I could hurl an apple 50 feet right into the woods behind our house. My dog, Chet, loved to chase and fetch those apples. He had trouble finding the ones that landed in the backwoods, so I threw a couple only 10 feet or so, especially for him.

- 9 One time one of those rotting apples fell smack on Mr. Tate's head. Mr. Tate came to talk to my dad about Chet's barking. "That hound keeps me up all night with his yapping!" he yelled at my dad. I just sat there on the back steps with my arm slung around Chet's neck. Just then the biggest, hardest apple that tree ever grew shook itself loose and landed PLOP right on Mr. Tate's head. Mr. Tate's face flamed brighter than a sunset. He started sucking up air like there was going to be a shortage. I think Grandpa saw the whole thing because I swore I heard a chuckle coming from the kitchen.

I always felt safe with that tree outside my window. I knew if there was ever a fire in the house, that thick branch under my window would be waiting like a strong arm to catch me.

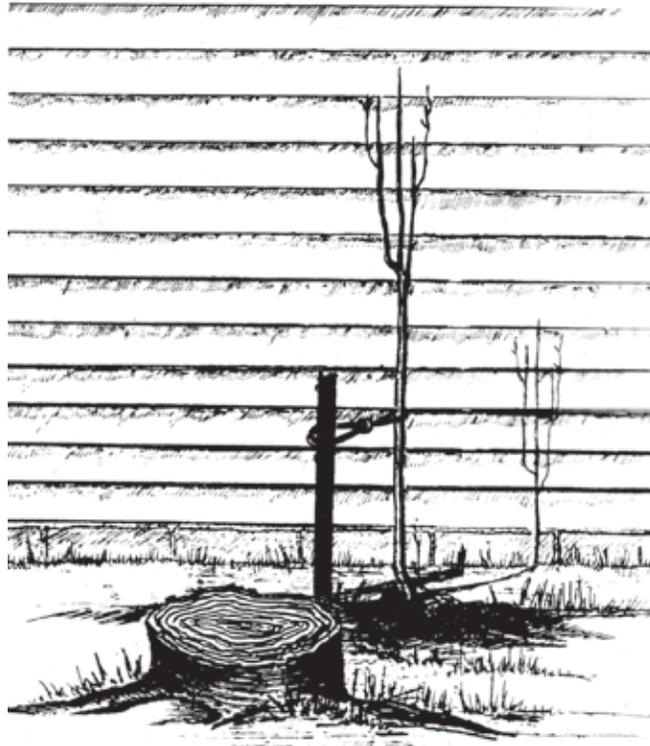
Our cat, Tickey, made a regular use of that branch. She'd climb up it and jump onto the roof to catch some sun. If I forgot to let her into the house at night, she'd climb up the branch and thud a white paw on my window screen to remind me.

One day a fierce storm from the ocean knocked the old apple tree down. I could smell the ocean in our backyard. Salt water was warm and thick in the air. It made my skin tingle. Grandpa and I kicked our way through the fallen branches and leaves that carpeted the ground. The old apple tree was split in half. One side was lying on the ground; the other was resting on our house.

Dad cut the tree into small pieces with a saw. We stacked the pieces into a pile to be taken away with the rest of the damage from the storm. All that was left of our tree was a stump as high as my knees. Grandpa showed me how we could finally figure out our tree's age. We counted the annual rings on the saw-cuts in the stump. Our tree was 150 years old!

Next day Grandpa came home with a new apple tree. It wasn't quite like our old one. This one was a tiny twig. It was smaller than the smallest branch on our old apple tree.

Grandpa and I planted it close to the old tree. The new tree was so fragile. We anchored it to a pole, so Chet wouldn't knock it down.



“How long will it take before it’s as big as our old tree?” I asked.

“Well, Andie,” Grandpa said, “I don’t think it’ll reach that height in your lifetime. Maybe by the time your children have children, and their children have children, it’ll be as big as the old one.”

That seemed like a long time to me. Then I remembered how our old tree was 150.

“Grandpa, do you think one of the new branches will grow right under my window?” I asked.

“I don’t see why not,” he said.

Since Chet had no apples to chase anymore, I bought him a rubber ball instead. I practice my throwing now with our school softball team. I’m the outfielder. I suppose it was all those days throwing apples that helped me land the position.

Tickey hasn’t been doing much climbing lately. She just had kittens. I suspect in a few weeks she’ll be planning to climb the old tree again. I explained to her about the new tree and how her kittens’ kittens could climb it someday.

Whenever I start missing the old apple tree, I remember the new one. I think of how generations will once again smell blossoms in spring and watch the apples grow in summer.

- 1** In paragraph 1, Andie describes the apple blossoms using all of the following senses **except**
- A** smell.
 - B** touch.
 - C** sight.
 - * **D** taste.
- 2** Even before the storm, Andie’s father wants to get rid of the tree because it
- A** bothers his neighbor, Mr. Tate.
 - B** produces too many apples.
 - C** has fallen down.
 - * **D** is sick and old.
- 3** In paragraph 9, the sentence “Mr. Tate’s face flamed brighter than a sunset” suggests that Mr. Tate
- A** has a sunburn.
 - B** is laughing hard.
 - * **C** is filled with rage.
 - D** feels embarrassed.
- 4** After the tree was cut down, Andie and Grandpa were finally able to
- A** plant a new one.
 - B** eat good apples.
 - * **C** figure out its age.
 - D** clean up the yard.
- 5** Details in the passage suggest that the house
- A** is where Andie and her father go every summer.
 - * **B** has been Grandpa’s home since he was a boy.
 - C** belonged to Mr. Tate many years ago.
 - D** will be sold because of storm damage.
- 6** The tree stump in the picture shows multiple rings to help the reader understand
- A** how the new tree is planted.
 - B** what happened during the storm.
 - * **C** how Andie and Grandpa determine the age of the tree.
 - D** what Andie’s grandchildren will see outside their window.

7 Which sentence from the passage **best** supports the idea that the old tree taught Andie a useful skill?

- * **A** I got so good that soon I could hurl an apple 50 feet right into the woods behind our house.
- B** I knew if there was ever a fire in the house, that thick branch under my window would be waiting like a strong arm to catch me.
- C** I explained to her about the new tree and how her kittens' kittens could climb it someday.
- D** I think of how generations will once again smell blossoms in spring and watch the apples grow in summer.

8 Which is the **best** summary of this passage?

- A** Andie's grandpa is attached to an old apple tree that has been in the family for generations. Andie's father wants to chop it down.
- B** A fierce storm knocks down an old apple tree. Andie's family remembers the tree and is sad that it is gone.
- C** An apple tree provides a lot of fun for Andie's pets. When it finally dies, the family plants a new tree in its place.
- * **D** Andie loves an old apple tree that has been in her family for generations. When it dies, the family plants a new one.

Reading Item A—2014 Grade 6

A Identify two examples of figurative language from the passage. Explain how each contributes to the plot.

Reading Item A Scoring Rubric—2014 Grade 6

Score	Description
4	The response identifies at least two examples of figurative language and explains how each contributes to the plot.
3	The response identifies two examples of figurative language and explains how one contributes to the plot.
2	<p>The response identifies one example of figurative language and explains how it contributes to the plot.</p> <p style="text-align: center;">OR</p> <p>The response identifies two examples of figurative language but fails to explain how either one contributes to the plot.</p>
1	<p>The response identifies one example of figurative language but does not explain how it contributes to the plot.</p> <p style="text-align: center;">OR</p> <p>The response demonstrates minimal understanding of the question.</p>
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.)

Great Green Leaf Prints

by Ellen B. Senisi

Sometimes in winter, the feeling of green and growing is far away. You can make a collage to hang on the wall to remind you of spring. Or write about a favorite scene or object from nature with homemade green ink.



What you are making:

A collage of green leaves, stems, and vines, hammered onto plain cloth

Materials:

- an assortment of green leaves, stems, and vines
- unbleached muslin cloth
- scrap pieces of the same cloth
- tape
- wax paper
- a hammer



How to do it:

- Find a sturdy worktable or a sidewalk to work on.
- Choose leaves, stems, and vines. (You will find that thick, sturdy, dark green leaves usually work best. Be sure to use green stems instead of brown, woody ones. The green shoots of some vines will add graceful, curving lines to your collage.)
- Test your leaves on the scrap pieces of cloth. Some kinds will work well and some won't. Place the top, or shiny side, of the leaves face up and the bottom, or dull side, face down, touching the cloth. Use a few pieces of tape to hold them in place.
- Put wax paper over the leaves and hammer away. (Hammer evenly and hard, going over and over every part of the leaves. Some leaves may need a lot of hammering to give up their color.)
- Remove the wax paper and carefully peel away the tape and leaves—the imprint of the leaves will be left on the cloth.
- Now arrange new leaves, vines, and stems on your big piece of cloth. You can use the leaves as shapes and the stems and vines as lines to create a picture or pattern.
- Repeat the hammering process above.

Colors in a Leaf

What You'll Need:



coffee filter



scissors



leaves



coin



rubbing alcohol



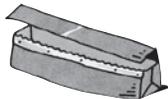
jar



pencil



tape



aluminum foil

- 1 Leaves have a green pigment called chlorophyll that they use to capture sunlight. But did you know that leaves also have pigments of other colors to capture colors of light that chlorophyll misses? You can use chromatography to see the many colors in a leaf.

Cut a strip one inch wide from a coffee filter. Cut one end of the strip so that it is pointed. Place a leaf on the paper 1/4 inch above the point. Roll the edge of a coin over the leaf, pressing green leaf juice into the paper. Let the paper dry. Then repeat the process with three different leaves.

Pour a 1/2-inch layer of rubbing alcohol into the bottom of a jar. Tape your paper strip to the middle of a pencil and hang it so that the very tip of the strip touches the alcohol. The colored strip of leaf “juices” should not touch the alcohol. You may have to adjust the length of the strip. Lay a piece of foil over the top of the jar to keep the alcohol from evaporating. Watch carefully as the alcohol moves up the filter paper, carrying the pigments along with it. In 10 to 20 minutes the colors should be separated. Do not allow them to run to the top of the paper. How many colors do you see? Could you see them in the leaf itself? The finished paper is called a chromatograph. Let it dry and use your chromatograph as a special bookmark.

- 9** According to the opening paragraph, the reader might want to make a green leaf print as a reminder of
- A** the four seasons of the year.
 - B** a favorite tree or other plant.
 - C** a favorite summer experience.
 - * **D** springtime, during cold weather.
- 10** What is the purpose of the scrap pieces of cloth for making a leaf print?
- A** to pick up the color from stems and shoots
 - B** to add shapes for an interesting picture or pattern
 - * **C** to test whether the leaves will work with the cloth
 - D** to hold the leaves in place on the larger muslin cloth
- 11** The word imprint as it is used in the “How to do it” section of the leaf print activity means a mark resulting from
- * **A** pressing.
 - B** carving.
 - C** painting.
 - D** covering.
- 12** In a leaf collage, curving lines can be created by using the
- A** shapes of leaves.
 - B** stems of leaves.
 - C** leaves of vines.
 - * **D** shoots of vines.
- 13** Based on information in “Great Green Leaf Prints,” how should the leaves in the chromatograph activity be placed?
- A** shiny side down
 - * **B** shiny side up
 - C** in alcohol
 - D** on foil
- 14** What is the meaning of pigment as it is used in paragraph 1 of “Colors in a Leaf”?
- * **A** a substance that produces color in plants
 - B** a product that is used to dye muslin cloth
 - C** a product that releases color under pressure
 - D** a substance that separates colors in chromatographs

15 In the second activity, which item from the “What You’ll Need” section becomes the chromatograph?

- A** leaves
- B** pencil
- * **C** coffee filter
- D** aluminum foil

16 Which of the following materials is used for both activities?

- A** cloth
- * **B** tape
- C** foil
- D** jar

Reading Item B—2014 Grade 6

- B** Explain how the hammer and the coin are alike in these activities, using at least one detail from the passage to support that similarity. Explain how the hammer and the coin are different in these activities, using at least one detail from the passage to support that difference.

Reading Item B Scoring Rubric—2014 Grade 6

Score	Description
4	The response explains how in these activities the hammer and the coin are alike and how they are different, using at least one detail to support each explanation.
3	The response explains how in these activities the hammer and the coin are alike and how they are different, using at least one detail to support one explanation.
2	The response explains how in these activities the hammer and the coin are alike or how they are different, using at least one detail to support that explanation. OR The response explains how in these activities the hammer and the coin are alike and how they are different.
1	The response explains how in these activities the hammer and the coin are alike or how they are different. 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.)

- 1** On the way to the grocery store, the engine of Lee’s car _____.

Which is the **best** use of onomatopoeia to complete this sentence effectively?

- A** emitted a black column of smoke
- B** grew as loud as loud could be
- C** made super weird noises
- * **D** clanged and whirred

- 2** The big ship with large sails moved through the water during a storm.

Which revision of this sentence **best** uses vocabulary to develop style?

- * **A** The massive ship, its sails billowing, sliced through the heaving sea.
- B** The huge ship with giant sails floated on the ocean in a heavy storm.
- C** The vast ship with even vaster sails moved through the ocean in a vast, vast storm.
- D** The super-big ship that had unbelievably large sails sailed in an amazing storm through the sea.

- 3** The following paragraph is from a book about dogs:

Dogs can sniff out lost hikers and hidden chemicals. Some dogs can even tell identical twins apart by smell. How is this possible? Dogs have a truly extraordinary sense of smell. They have hundreds of millions of cells in their noses specifically for identifying smells, and almost one-eighth of their brains is devoted to their sense of smell. Many scientists believe that a dog’s sense of smell is about a million times better than a human’s.

Which is the **best** summary of this paragraph?

- A** Dogs are good at telling identical twins apart.
- * **B** Dogs have an extremely sensitive sense of smell.
- C** Nobody knows how a dog’s sense of smell works.
- D** There are hundreds of millions of cells in a dog’s nose.

- 4** ¹When people think of ancient Egypt, they often think of the pharaohs, the ancient Egyptian rulers who built enormous stone pyramids along the Nile River. ²Most people in ancient Egypt, however, lived very simple lives. ³Many of them were farmers who grew grain and fruit on small farms. ⁴They also raised sheep and goats. ⁵Like people today, they took care of their families and their houses, paid their taxes, and worked hard every day.

Which of the sentences below is the **best** summary of this paragraph?

- A** Most people in ancient Egypt paid taxes.
- B** Farms in ancient Egypt were small and full of goats.
- C** The pharaohs, the rulers of ancient Egypt, built the pyramids.
- * **D** Most ancient Egyptians were ordinary, hard-working farmers.

WRITING PROMPT

You have attended school for several years. Which grade have you enjoyed the most?

Before you begin to write, think about all the years you have been in school. Which grade have you liked the best? **Why?**

Now write about the grade that you have enjoyed the most. Be sure to tell what grade it is and why you enjoyed it so much. Be sure to give enough detail so that your teacher will understand.

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.

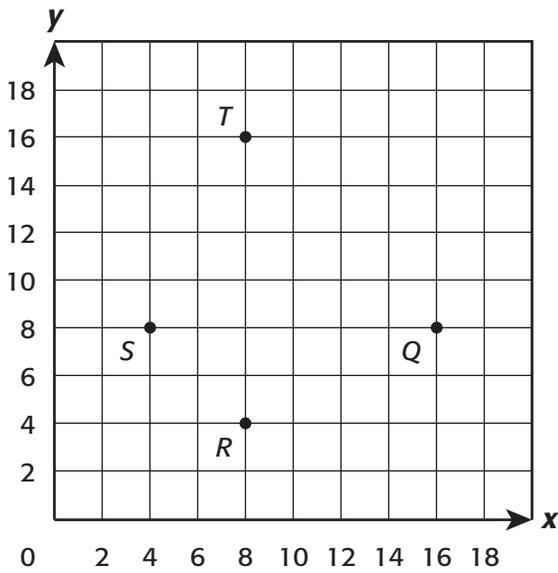
Nonscoreable and Blank Papers

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.”

CALCULATOR NOT PERMITTED—ITEMS 1–2

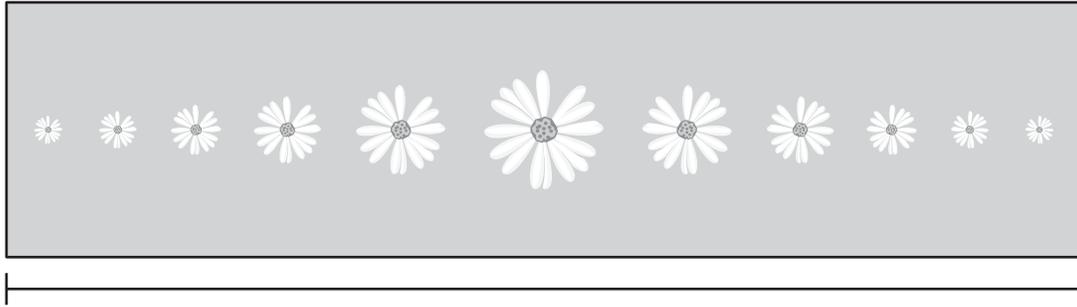


- 1 Which point represents the location of (4, 8) on the coordinate grid?



- A Q
- B R
- * C S
- D T

- 2 Using a ruler, find the length of the bookmark below to the nearest eighth of an inch.

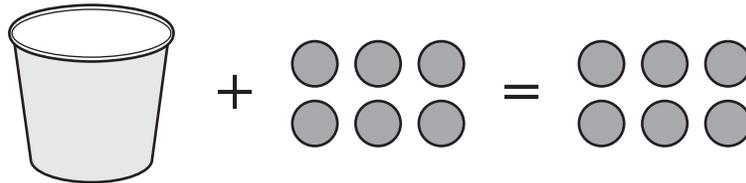


- A $5\frac{1}{8}$ in.
- B $5\frac{4}{8}$ in.
- * C $5\frac{5}{8}$ in.
- D $6\frac{3}{8}$ in.

CALCULATOR PERMITTED—ITEMS 3–20 and A–C



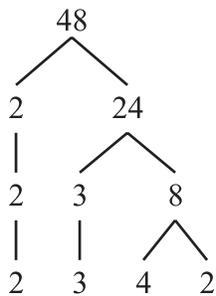
3 Look at the diagram below.



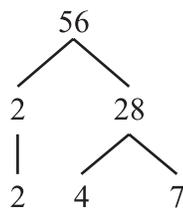
If the equation above is true, what is the value of the container on the left?

- * **A** 0
- B** 1
- C** 6
- D** 12

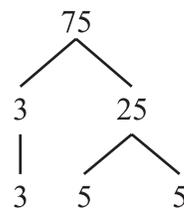
4 Look at the tree diagrams below.



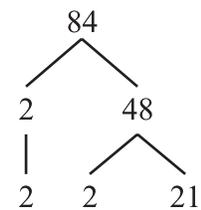
$$2 \times 3 \times 4 \times 2$$



$$2 \times 4 \times 7$$



$$3 \times 5^2$$



$$2 \times 21$$

Which number's prime factorization is correct?

- A** 48
- B** 56
- * **C** 75
- D** 84

5 The numbers 1, 2, 3, 4, 5, and 6 appear on a cube, with one number on each side of the cube. If the cube is rolled, what is the theoretical probability that it will land on a number that is greater than 4?

A $\frac{1}{6}$

* **B** $\frac{1}{3}$

C $\frac{1}{2}$

D $\frac{2}{3}$

6 Which of the following has a value equal to $\frac{3}{5}$?

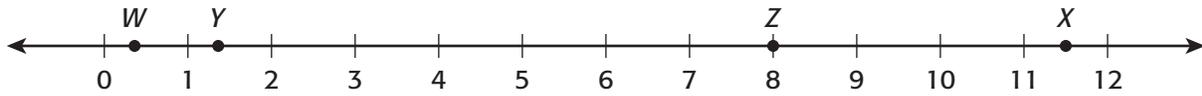
A 0.30

B 0.35

C 0.53

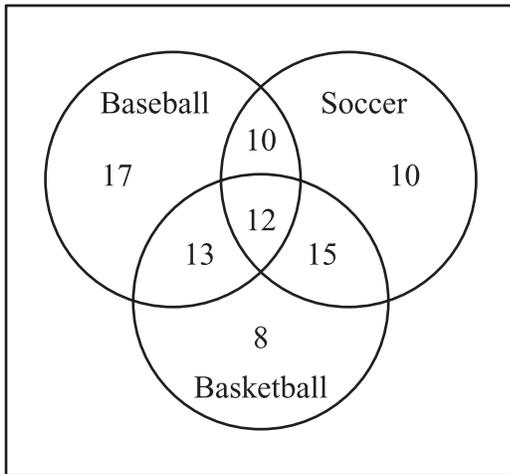
* **D** 0.60

- 7 Which of the points on the number line shown is closest to the location of $\frac{11}{8}$?



- A W
- B X
- * C Y
- D Z

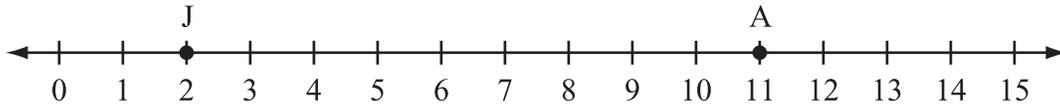
- 8 Steven interviewed 100 students in his school to see how many participated on the baseball, soccer, and basketball teams. His results are shown in the Venn diagram below.



How many of the interviewed students did not participate in any of these sports?

- A 12
- * B 15
- C 50
- D 85

- 9 The locations of Jane’s and Anne’s homes are represented as point J and point A on the number line below.

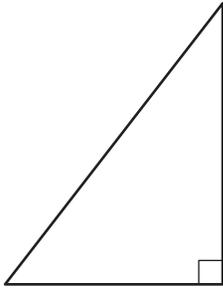


How many units apart are Jane’s and Anne’s homes on the number line?

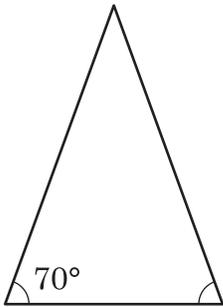
- * **A** 9
- B** 10
- C** 11
- D** 13

- 10** The tail of Eli’s model airplane is an obtuse triangle. Which of the triangles below could be the tail of Eli’s plane?

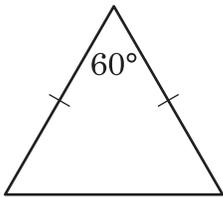
A



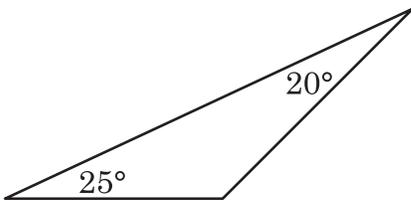
B



C



*** D**



- 11** A table of values is shown below.

x	y
84	12
77	11
70	10
63	9

Which equation represents the data in the table?

A $x = \frac{y}{7}$

*** B** $y = \frac{x}{7}$

C $y = x - 72$

D $x = y - 72$

- 12** The highest recorded temperatures for the past 9 days were recorded and listed below.

71, 75, 75, 77, 77, 73, 77, 70, 80

Which of the following measures is equal to 77?

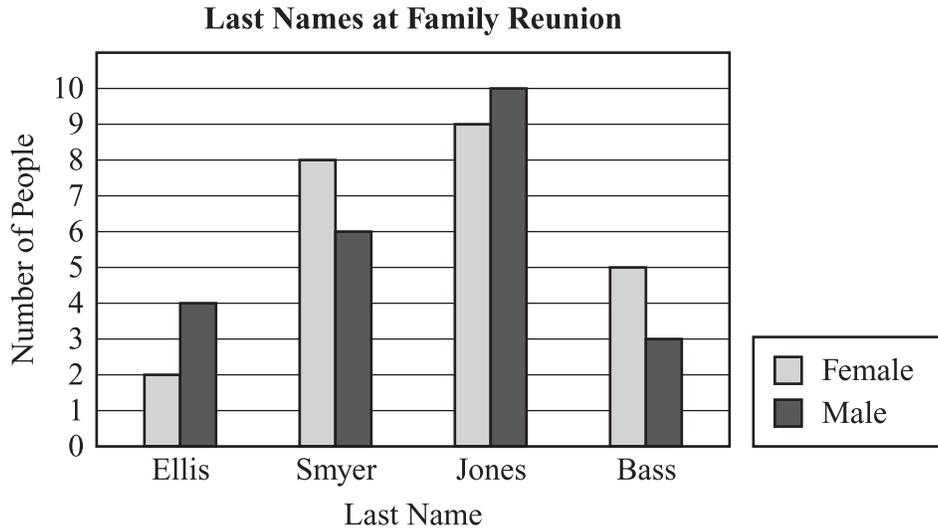
*** A** mode

B mean

C range

D median

13 Mandy made a graph of the last names of the people attending the family reunion.



How many more people from the Jones family were at the reunion than from the Smyer family?

- A** 1
- B** 4
- * **C** 5
- D** 6

14 Chase has an empty fish tank that holds a total of 12.5 liters of water.

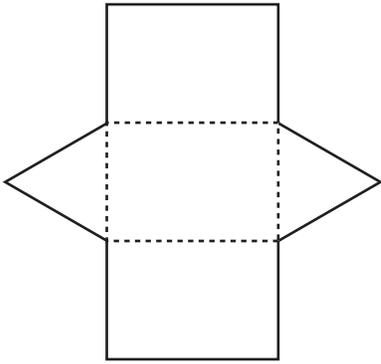
How many 500-milliliter bottles of water will it take to fill Chase’s fish tank?

- A** 40
- * **B** 25
- C** 4
- D** 2.5

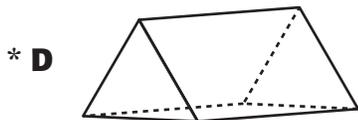
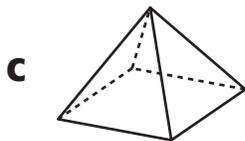
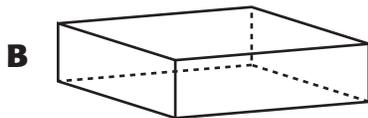
15 The base of a lamp has a diameter of 10 inches. What is the radius of the base?

- * **A** 5 in.
- B** 5π in.
- C** 10π in.
- D** 20 in.

16 A net is shown below.



Which solid can be made from the net?



17 What is the value of $6x - 2$ when $x = 3$?

A 1

B 7

* **C** 16

D 20

18 Dennis left his house at 11:45 A.M. to go for a run. If he ran for 1 hour and 27 minutes, what time did he arrive back home?

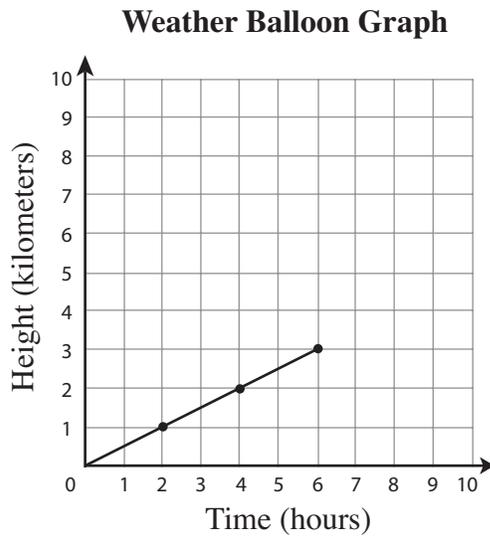
A 12:12 P.M.

* **B** 1:12 P.M.

C 12:72 P.M.

D 1:12 A.M.

- 19** A weather balloon rose at the rate shown in the graph below.



If the pattern continues, about how far above the ground will the balloon be at 9 hours?

- A** 1.5 kilometers
- B** 3.0 kilometers
- C** 4.0 kilometers
- * **D** 4.5 kilometers

- 20** Which of the following is equal to $15 + 25$?

- * **A** $5(3 + 5)$
- B** $5(3 + 8)$
- C** $3(5 + 8)$
- D** $15(1 + 10)$

Mathematics Item A—2014 Grade 6
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A Maya has \$8. After she sells a box of cookies, she has \$11.

1. Using c to represent the cost of a box of cookies, write an equation that can be used to find the cost of a box of cookies. Show your work and/or explain your answer.
2. Find the cost of a box of cookies using your equation. Show your work and/or explain your answer.
3. Tim also sells a box of cookies for the same price. If he has \$9 after selling the box of cookies, how much money (m) did he have before he sold the cookies? Write an equation and solve. Show your work and/or explain your answer.

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

Mathematics Item A Scoring Rubric—2014 Grade 6

Score	Description
4	The student earns 4 points. The response contains no incorrect work and Parts 2 and 3 have correct units.
3	The student earns 3 – 3½ points.
2	The student earns 2 – 2½ points.
1	The student earns ½ – 1½ point(s), 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: $C + 8 = 11$ Or equivalent</p> <p>OR</p> <p>½ point: Correct equation with variable other than C</p>
2	<p>1 point possible:</p> <p>1 point: Correct answer: \$3 <i>Or correct answer based on previous parts</i> Correct and complete explanation or work shown Give credit for the following or equivalent: Ex. $C + 8 = 11$ $C = 11 - 8$ $C = 3$</p> <p>OR</p> <p>½ point: Correct answer: \$3 <i>Or correct answer based on previous parts</i> Work is incomplete, missing, or incorrect</p> <p>or</p> <p>Answer is incorrect due to arithmetic error (or is missing) Correct and complete work shown</p>

Solution and Scoring

Part	Points
3	<p>2 points possible:</p> <p>1 point: Correct equation: $M + 3 = 9$ Or equivalent <i>Or correct answer based on previous parts</i></p> <p>OR</p> <p>½ point: Correct equation with variable other than M <i>Or correct answer based on previous parts</i></p> <p>AND</p> <p>1 point: Correct answer: \$6 <i>Or correct answer based on previous parts</i> Correct and complete explanation or work shown Give credit for the following or equivalent: Ex. $M + 3 = 9$ $M = 9 - 3$ $M = 6$</p> <p>OR</p> <p>½ point: Correct answer: \$6 <i>Or correct answer based on previous parts</i> Work is incomplete, missing, or incorrect</p> <p>or</p> <p>Answer is incorrect due to arithmetic error (or is missing) Correct and complete work shown</p>

Mathematics Item B—2014 Grade 6
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- B** Mr. Thomas wants to hang student art from a string that runs the length of his classroom. He measures his room and finds it is 11 yards long.
1. How many feet of string does Mr. Thomas need to cover the length of his room? Show your work and/or explain your answer.
 2. Mr. Thomas finds a ball of string that is 468 inches long. Show whether or not he has enough string to complete his project. Show your work and/or explain your answer.
 3. What is the longest distance, in yards, that Mr. Thomas' string could reach, pulled straight from one end to the other? Show your work and/or explain your answer.
- BE SURE TO LABEL YOUR RESPONSES 1, 2, AND 3.

Mathematics Item B Scoring Rubric—2014 Grade 6

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 point(s), 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

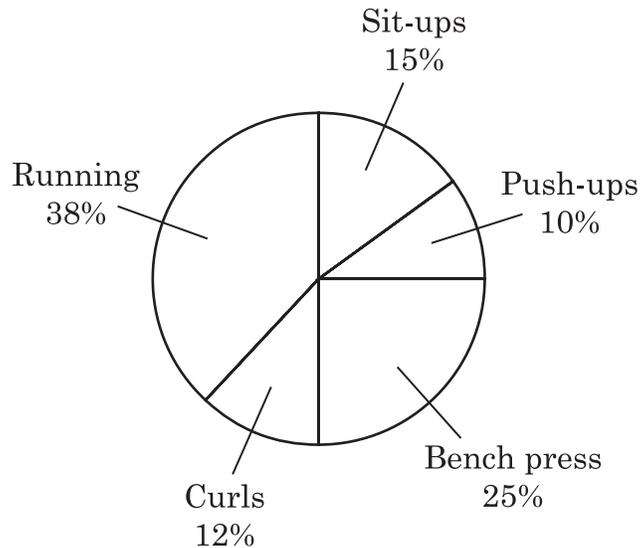
Part	Points
1	<p>1 point possible:</p> <p>1 point: Correct answer: 33 (feet) Correct and complete explanation or work shown Give credit for the following or equivalent: Ex. $3 \times 11 = \#$</p> <p>OR</p> <p>$\frac{1}{2}$ point: Correct answer: 33 (feet) Work is incomplete, missing, or incorrect</p> <p>or</p> <p>Answer is incorrect due to arithmetic error (or is missing) Correct and complete work shown</p>
2	<p>1 point possible:</p> <p>1 point: Correct answer: Yes <i>Or correct answer based on previous parts</i> Correct and complete explanation or work shown Give credit for the following or equivalent: Ex. $33 \times 12 = 396$ $396 < 468$</p> <p>OR</p> <p>$\frac{1}{2}$ point: Correct answer: Yes <i>Or correct answer based on previous parts</i> Incomplete explanation or work shown Give credit for the following or equivalent: Ex. $33 \times 12 = 396$</p> <p><i>Note: There must be valid work; just Yes or No gets no credit.</i></p>

Solution and Scoring

Part	Points
3	<p data-bbox="334 327 570 359">2 points possible:</p> <p data-bbox="428 394 1219 548">2 points: Correct answer: 13 Yards Correct and complete explanation or work shown Give credit for the following or equivalent: Ex. $468 \div 12 = 39$ $39 \div 3 = 13$</p> <p data-bbox="428 583 472 615">OR</p> <p data-bbox="428 651 1122 709">1 point: Correct answer: 13 (yards) Work is incomplete, missing, or incorrect</p> <p data-bbox="618 745 646 777">or</p> <p data-bbox="618 812 1325 869">Answer is incorrect due to arithmetic error (or is missing) Correct and complete work shown</p>

Mathematics Item C—2014 Grade 6
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- C** Kerry spends 80 minutes in the gym on Thursday. The percentage of time he spent on each of 5 activities is shown in the circle graph below.



- How much time did Kerry spend on push-ups? Show your work and/or explain your answer.
- How much more time did Kerry spend on the bench press than on push-ups? Show your work and/or explain your answer.
- The difference in the amount of time Kerry spent on the bench press than on push-ups is equal to the number of minutes he spent on what other activity? Show your work and/or explain your answer.

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

Mathematics Item C Scoring Rubric—2014 Grade 6

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 point(s), 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 answer: 8 minutes Correct and complete explanation or work shown Give credit for the following or equivalent: Ex. $80 \times .1 = 8$</p> <p>Note: At a 4 level units must be included.</p> <p>OR</p> <p>½ point: Correct answer: 8 minutes Work is incomplete, missing, or incorrect</p> <p>or</p> <p>Answer is incorrect due to arithmetic error (or is missing) Correct and complete work shown</p>
2	<p>2 points possible:</p> <p>2 points: Correct answer: 12 minutes <i>Or correct answer based on previous parts</i> Correct and complete explanation or work shown Give credit for the following or equivalent: Ex. $.25 \times 80 = 20$ $20 - 8 = 12$</p> <p>Note: At a 4 level units must be included.</p> <p>OR</p> <p>1 point: Correct answer: 12 minutes <i>Or correct answer based on previous parts</i> Work is incomplete, missing, or incorrect</p> <p>or</p> <p>Answer is incorrect due to arithmetic error (or is missing) Correct and complete work shown</p>

Solution and Scoring

Part	Points
3	<p>1 point possible:</p> <p>1 point: Correct answer: Sit-ups <i>Or correct answer based on previous parts</i> Correct and complete explanation or work shown Give credit for the following or equivalent: Ex. $12 \div 80 = .15$ $.15 = 15\%$ the same as sit-ups Ex. BP 25% PU - <u>10%</u> 15% the same as sit-ups</p> <p>OR</p> <p>½ point: Correct answer: Sit-ups <i>Or correct answer based on previous parts</i> Work is incomplete, missing, or incorrect</p> <p>or</p> <p>Answer is incorrect due to arithmetic error (or is missing) Correct and complete work shown</p>

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Mathematics Reference Sheet Grade 6

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

<p>Square Area = s^2 Perimeter = $4s$</p>	<p>Rectangle Area = lw Perimeter = $2l + 2w$</p>	<p>Triangle Area = $\frac{1}{2}(b \times h)$ Perimeter = $a + b + c$</p>	<p>Parallelogram Area = bh Perimeter = $2a + 2b$</p>
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Miscellaneous Conversions

$\pi \approx 3.14$

1 foot = 12 inches

1 yard = 3 feet

1 mile = 5,280 feet

1 pound (lb) = 16 ounces (oz)

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>7. Make inferences and draw conclusions about characters' traits and actions based on plot, setting, motives, and responses to other characters. 8. Analyze literary elements of character, plot, and setting. 10. Distinguish among facts and inferences supported by evidence and opinions in text. 12. Identify main ideas and supporting evidence in short reading passages. 13. Use the <i>text features</i> to locate and recall information, with emphasis on cue words and phrases. 16. Use skimming and scanning to locate specific information to develop a general overview. 17. Analyze information from the text, based on purpose and/or level of importance. 18. Summarize the content of a text. 19. Identify events that advance the plot of a literary work and evaluate how those events relate to past, present, or future actions.</p>
<p>10. Variety of Text: Students shall read, examine, and respond to a wide range of texts for a variety of purposes.</p>	<p>3. Vary reading strategies according to text and purpose. 5. Compare/contrast information from multiple sources. 6. Use skimming and scanning to locate specific information or to develop a general overview. 9. Understand and analyze the differences in structure of various informational text. 15. Analyze selections through text, images, and photographs for a given purpose.</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>5. Use context to determine meaning of multiple meaning words. 6. Use resources to determine meaning of technical and specialized vocabulary. 8. Explain the meaning of figurative language such as idioms, similes and metaphors. 10. Use context clues to select appropriate dictionary definition.</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	9	16
2	R	9	7
3	R	11	8
4	R	9	19
5	R	9	8
6	R	10	15
7	R	9	8
8	R	9	18
A	R	11	8
9	R	10	6
10	R	9	12
11	R	11	5
12	R	10	6
13	R	9	17
14	R	11	6
15	R	9	12
16	R	10	5
B	R	10	5

* 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	9	12
R	11	10
R	10	9
R	9	10
R	9	12
R	9	10
R	10	3
R	9	13
R	9	12

* 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 6

The Arkansas English Language Arts Curriculum Framework—Writing Strand*

Content Standards	Student Learning Expectations
<p>4. Process: Students shall employ a wide range of strategies as they write, using the writing process appropriately.</p>	<p>11. 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 • Embedding 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
<p>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.</p>	<p>5. Write research reports using a variety of sources, summarizing and paraphrasing.</p>
<p>6. Conventions: Students shall apply knowledge of Standard English conventions in written work.</p>	<p>5. Identify and correct fragments and run-ons. 8. Apply correct spelling to commonly misspelled words.</p>
<p>7. Craftsmanship: Students shall develop personal style and voice as they approach the craftsmanship of writing.</p>	<p>1. Use figurative language purposefully, such as onomatopoeia, to shape and control language to affect readers. 5. Use purposeful vocabulary with emphasis on developing <i>style</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	7	1
2	W	7	5
3	W	5	5
4	W	5	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	8
W	4	11
W	4	11
W	6	5

* 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 (N)	1. Number Sense: Students shall understand numbers, ways of representing numbers, relationships among numbers, and number systems.	2. Find decimal and <i>percent equivalents</i> for proper fractions and explain why they represent the same value. 4. Convert, compare and order fractions (mixed numbers and improper fractions) decimals and <i>percents</i> and find their approximate locations on a number line.
	2. Properties of Number Operations: Students shall understand meanings of operations and how they relate to one another.	1. Use <i>divisibility rules</i> to determine if a number is a <i>factor</i> of another number (4, 6, 9). 2. Apply the <i>distributive property</i> of multiplication over addition to simplify computations with <i>whole numbers</i> . 3. Apply the addition, subtraction, multiplication and division properties of equality to one-step <i>equations</i> with <i>whole numbers</i> .
	3. Numerical Operations and Estimation: Students shall compute fluently and make reasonable estimates.	1. Apply, with and without appropriate <i>technology</i> , <i>algorithms</i> with <i>computational fluency</i> to perform <i>whole number operations</i> (+, -, x, /). 2. Develop and analyze <i>algorithms</i> for computing with fractions (including mixed numbers) and decimals and demonstrate, with and without <i>technology</i> , <i>computational fluency</i> in their use and justify the solution. 3. 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). 5. Find and use <i>factorization (tree diagram)</i> including <i>prime factorization</i> of composite numbers (expanded and exponential notation) to determine the greatest common factor (<i>GCF</i>) and least common multiple (<i>LCM</i>).
2—Algebra (A)	4. Patterns, Relations, and Functions: Students shall recognize, describe, and develop patterns, relations, and functions.	1. Solve problems by finding the next term or missing term in a <i>pattern</i> or <i>function</i> table using real world situations. 2. Interpret and write an <i>algebraic</i> rule for a one <i>operation function table</i> . Ex. $y = x + 3$
	5. Algebraic Representations: Students shall represent and analyze mathematical situations and structures using algebraic symbols.	1. Model, write and solve one-step <i>equations</i> by informal methods using manipulatives and appropriate <i>technology</i> . 2. Write simple <i>algebraic expressions</i> using appropriate operations (+, -, x, /) with one <i>variable</i> . 3. Evaluate <i>algebraic expressions</i> with one <i>variable</i> using appropriate properties and operations (+, -, x, /).
	6. Algebraic Models: Students shall develop and apply mathematical models to represent and understand quantitative relationships.	1. Complete, with and without appropriate <i>technology</i> , and interpret tables and <i>line graphs</i> that represent the relationship between two <i>variables</i> in <i>quadrant I</i> . Ex. time and distance
	7. Analysis of Change: Students shall analyze change in various contexts.	1. Identify and compare situations with constant or varying <i>rates</i> of change. Ex. a student's rate of growth each year is a varying rate, hourly wages is a constant rate

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

PART III Item Correlation with Curriculum Framework—Grade 6

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. Identify <i>three-dimensional</i> geometric figures using models (<i>rectangular prisms, cylinders, cones, pyramids, and spheres</i>). 2. Investigate with manipulatives or grid paper what happens to the <i>perimeter</i> and <i>area</i> of a <i>two-dimensional</i> shape when the dimensions are changed. Ex. length of sides are doubled 3. Identify, describe, draw, and classify triangles as <i>equilateral, isosceles, scalene, right, acute, obtuse, and equiangular</i>. 4. Draw, label and determine relationships among the <i>radius, diameter, center</i> and <i>circumference</i> (e.g. <i>radius</i> is half the <i>diameter</i>) of a circle. 5. Identify <i>similar figures</i> and explore their properties.
	9. Transformation of Shapes: Students shall apply transformations and the use of symmetry to analyze mathematical situations.	<ol style="list-style-type: none"> 1. Identify and describe <i>line</i> and <i>rotational symmetry</i> in <i>two-dimensional</i> shapes, <i>patterns</i>, and designs.
	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 <i>ordered pairs</i> to plot points in <i>Quadrant I</i>.
	11. Visualization and Geometric Models: Students shall use visualization, spatial reasoning, and geometric modeling.	<ol style="list-style-type: none"> 1. Identify <i>two-dimensional patterns (nets)</i> for <i>three-dimensional</i> solids, such as <i>prisms, pyramids, cylinders, and cones</i>.
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. Identify and select appropriate units and tools from both systems to measure. Ex. angles with degrees, distance with feet/meters 2. Make conversions within the same measurement system in real world problems. Ex. hours to minutes to seconds, meters to centimeters, feet to inches, liters to milliliters, quarts to gallons, etc.
	13. Systems of Measurement: Students shall identify and use units, systems, and processes of measurement.	<ol style="list-style-type: none"> 1. Solve real world problems involving one <i>elapsed time</i>, counting forward and backward (calendar and clock). 3. Draw and measure distance to the nearest mm and 1/8 inch accurately. 4. Establish and apply formulas to find <i>area</i> and <i>perimeter</i> of triangles, rectangles, and parallelograms. 5. Find the distance between two points on a number line. 6. Use estimation to check the reasonableness of measurements obtained from use of various instruments (including angle measures).
5—Data Analysis and Probability (D)	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"> 2. Collect data and select appropriate graphical representations to display the data including <i>Venn diagrams</i>. 3. Construct and interpret graphs, using correct scale, including <i>line graphs</i> and <i>double-bar graphs</i>.
	15. Data Analysis: Students shall select and use appropriate statistical methods to analyze data.	<ol style="list-style-type: none"> 1. Interpret graphs such as <i>double line graphs</i> and <i>circle graphs</i>. 2. Compare and interpret information provided by measures of <i>central tendencies (mean, median and mode)</i> and <i>measures of spread (range)</i>.
	16. Inferences and Predictions: Students shall develop and evaluate inferences and predictions that are based on data.	<ol style="list-style-type: none"> 1. Use observations about differences in data to make justifiable inferences.
	17. Probability: Students shall understand and apply basic concepts of probability.	<ol style="list-style-type: none"> 1. Distinguish between <i>theoretical</i> and <i>experimental probability</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	10	1
2	M	13	3
3	A	5	1
4	N	3	5
5	D	17	1
6	N	1	2
7	N	1	4
8	D	14	2
9	M	13	5
10	G	8	3
11	A	4	2
12	D	15	2
13	D	14	3
14	M	12	2
15	G	8	4
16	G	11	1
17	A	5	3
18	M	13	1
19	A	6	1
20	N	2	2
A	N	2	3
B	M	12	2
C	D	15	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
N	2	1
M	13	6
D	14	2
A	5	2
A	6	1
G	8	1
G	8	2
A	7	1
G	8	5
A	7	1
G	8	2
G	9	1
D	15	1
N	3	2
N	3	3
N	3	1
A	5	3
A	4	1
M	12	1
M	13	4
D	16	1
N	3	3

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

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