LEAP 2025

Mathematics

2017 Practice Test

Grade 4

DEPARTMENT of EDUCATION

Louisiana Believes

Session 1

Directions:

Today, you will take Session 1 of the Grade 4 Mathematics Test. You will not be able to use a calculator in this session.

Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your test booklet. Do not make any stray pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely.

If a question asks you to show or explain your work, you must do so to receive full credit. Only responses written within the provided space will be scored.

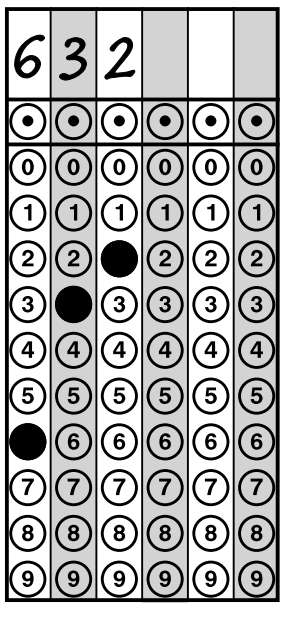
If you do not know the answer to a question, you may go to the next question. If you finish early, you may review your answers and any questions you did not answer in this session **ONLY**. Do not go past the stop sign.

GO ON ►

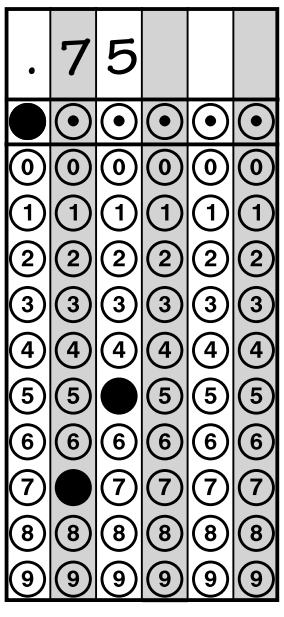
Directions for Completing the Answer Grids

1. Work the problem and find an answer.
2. Write your answer in the boxes at the top of the grid.
3. Print only one number or symbol in each box. Do not leave a blank box in the middle of an answer.
4. Under each box, fill in the circle that matches the number or symbol you wrote above. Make a solid mark that completely fills the circle.
5. Do not fill in a circle under an unused box.
6. Fractions cannot be entered into an answer grid and will not be scored. Enter fractions as decimals.
7. See below for examples on how to correctly complete an answer grid.

To answer 632 in a question, fill in the answer grid as shown on the left in your test booklet.



To answer .75 in a question, fill in the answer grid as shown on the right in your test booklet.



GO ON ►

1. Which expression is equivalent to $6 \times \frac{2}{3}$?

   Ⓐ $3 \times \frac{1}{3}$

   Ⓑ $4 \times \frac{1}{3}$

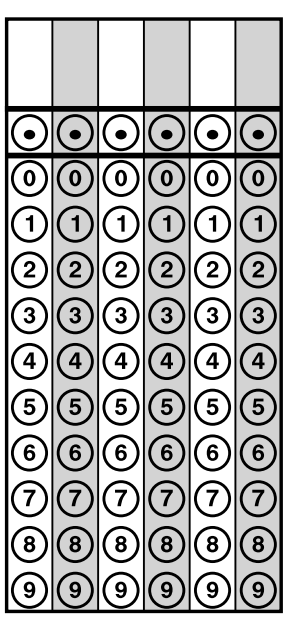
   Ⓒ $8 \times \frac{1}{3}$

   Ⓓ $12 \times \frac{1}{3}$

2. Casey spent 18 minutes coloring. She spent 6 times as many minutes reading.

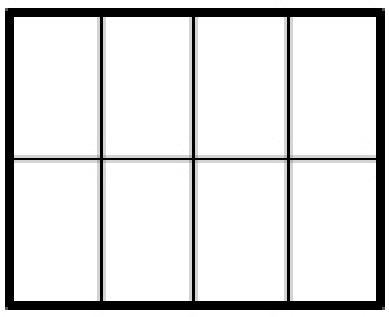
   How much time, in minutes, did Casey spend reading?

   Enter your answer in the box.



GO ON ►

3. The rectangle is divided into eight equal sections.



Jodi colors 4 sections. Then she colors 3 more sections.

Which **two** of these represent the fraction of the rectangle that Jodi colors in all?

Select the **two** correct answers.

Ⓐ $\frac{4}{8} + \frac{3}{8}$

Ⓑ $4 + 3$

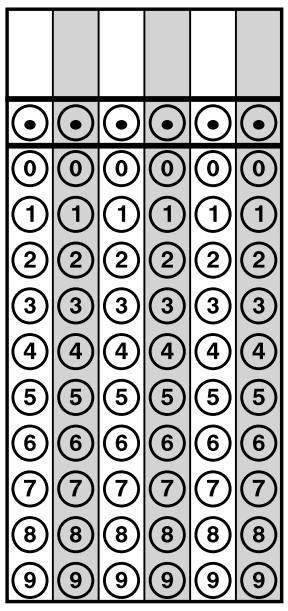
Ⓒ $\frac{8}{4} + \frac{8}{3}$

Ⓓ $\frac{1}{8} + 3$

Ⓔ $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$

4. Enter your answer in the box.

5,314 − 4,983 =

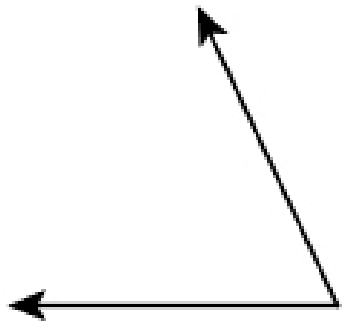


GO ON ▶

5. Which angle has a measure of 65°?

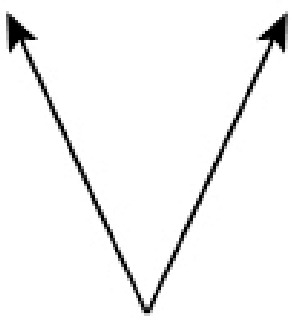
   You can use a protractor to help you find the answer.

Ⓐ

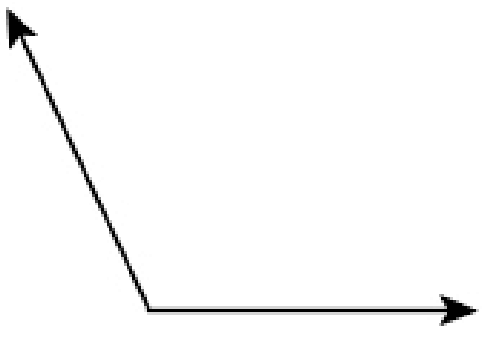


Ⓑ

Ⓒ



Ⓓ



6. What is the expanded form of 50,210?

   Ⓐ 5,000 + 20 + 1

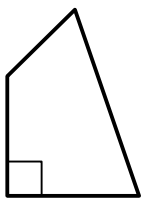
   Ⓑ 5,000 + 200 + 10

   Ⓒ 50,000 + 20 + 1

   Ⓓ 50,000 + 200 + 10

GO ON ►

7. Which **three** shapes appear to have at least two parallel sides?

Ⓐ 

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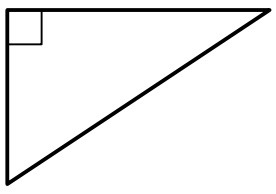
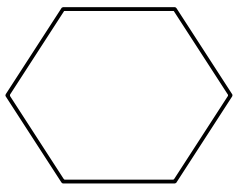
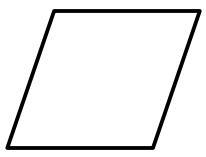
Ⓒ 

Ⓓ 

Ⓔ 

GO ON ►

8. Ryan makes 6 backpacks. He uses $\frac{3}{4}$ yard of cloth to make each backpack. What is the total amount of cloth, in yards, Ryan uses to make all 6 backpacks?

Ⓐ $1\frac{1}{2}$

Ⓑ $2\frac{1}{4}$

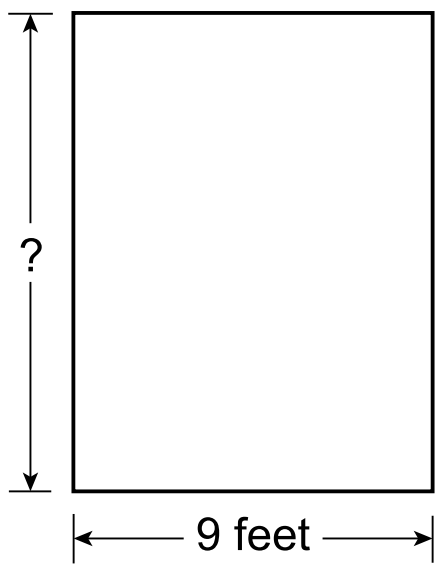
Ⓒ $4\frac{1}{2}$

Ⓓ $6\frac{3}{4}$

GO ON ►

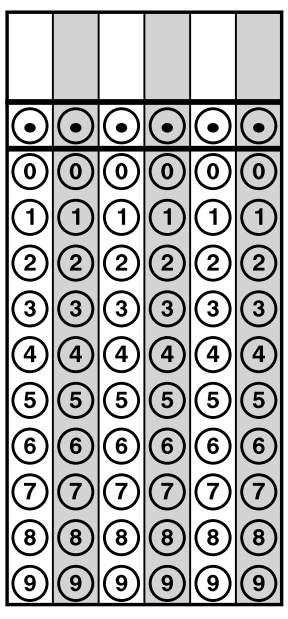
9. The area of the rectangular sandbox at Dave's school is 108 square feet.

The sandbox has a width of 9 feet, as shown in the diagram.



What is the length, in feet, of the sandbox?

Enter your answer in the box.



GO ON ▶

10. Which **two** equations represent the statement “48 is 6 times as many as 8”?

    Select the **two** correct answers.

    Ⓐ $48 = 6 + 8$

    Ⓑ $48 = 6 \times 8$

    Ⓒ $48 = 6 \times 6$

    Ⓓ $48 = 8 + 6$

    Ⓔ $48 = 8 \times 6$

GO ON ►

11. **Use the information provided to answer Part A and Part B for question 11.**

Jordan places two boards end to end to make one shelf. The first board is $\frac{47}{100}$ meter long. The second board is $\frac{5}{10}$ meter long.

Part A

What fraction is equivalent to $\frac{5}{10}$ and has a denominator of 100?

Ⓐ $\frac{5}{100}$

Ⓑ $\frac{50}{100}$

Ⓒ $\frac{105}{100}$

Ⓓ $\frac{150}{100}$

Part B

What is the total length, in meters, of the two boards?

Ⓐ $9\frac{7}{10}$

Ⓑ $5\frac{2}{10}$

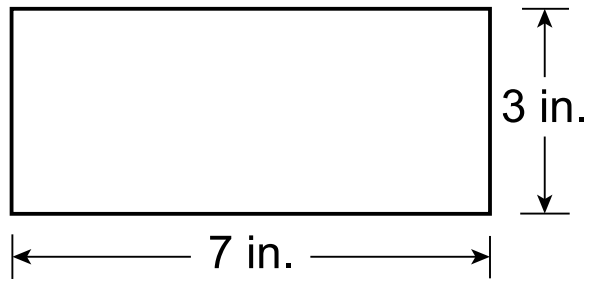
Ⓒ $\frac{97}{100}$

Ⓓ $\frac{52}{100}$

GO ON ▶

Use the information provided to answer Part A and Part B for question 12.

12. A rectangle is shown.

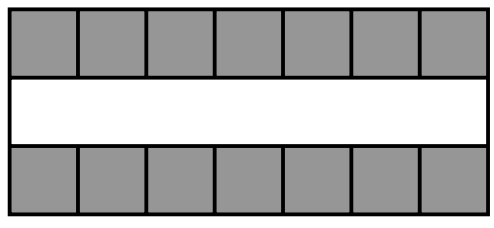


GO ON ►

Part A

A student uses square tiles measuring 1 inch on each side to find the area of the rectangle. Her reasoning is shown.

I covered the top and bottom edges of the rectangle with 7 tiles each.



I then covered the left and right edges with 3 tiles each. I added up all the tiles I used to get a total area of 20 square inches. 7 + 7 + 3 + 3 = 20.

Identify the two errors in the student's reasoning and describe how to correctly use square tiles to find the area of the rectangle. Give the correct area of the rectangle.

Enter your answers and your description in the box provided.

GO ON ►

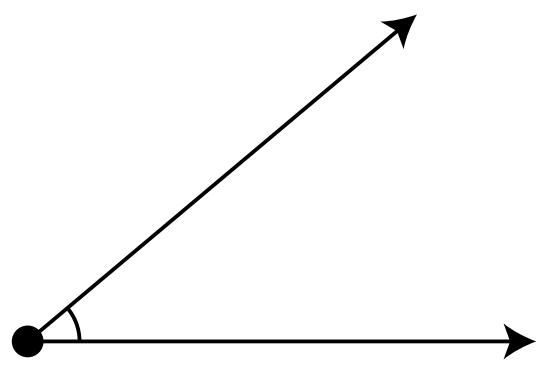
Part B

Write a multiplication sentence that models how to find the area of the rectangle shown.

Enter your multiplication sentence in the box provided.

GO ON ►

13. Look at the angle shown.



Which measure is closest to the measure of the angle?

Ⓐ 140°

Ⓑ 90°

Ⓒ 40°

Ⓓ 15°

GO ON ▶

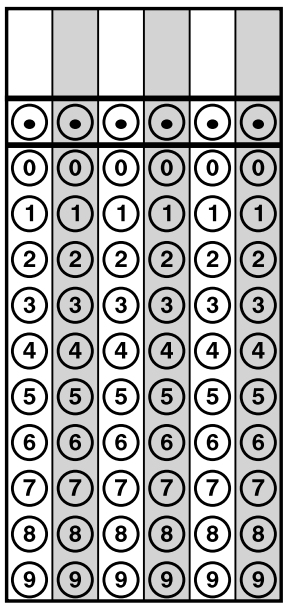
14. **Part A**

A school's art teacher needs 200 sticks of clay. An art shop donates 9 small boxes of clay and 6 large boxes of clay.

Box Size	Number of Sticks of Clay in Each Box
small	7
large	10

How many more sticks of clay will the art teacher need?

Enter your answer in the box.



GO ON ►

Part B

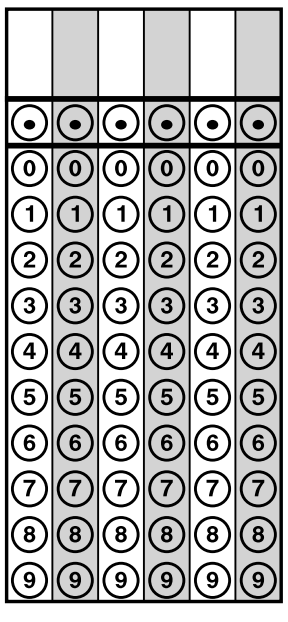
The art teacher buys the rest of the clay he needs in large boxes. The cost of 1 large box of clay is $14. What is the total cost for these boxes of clay? Show or explain your work.

Enter your answer and your work or explanation in the box provided.

GO ON ►

15. Enter your answer in the box to make the number sentence true.

5,039 × 8 =



STOP

No Test Materials

Session 2

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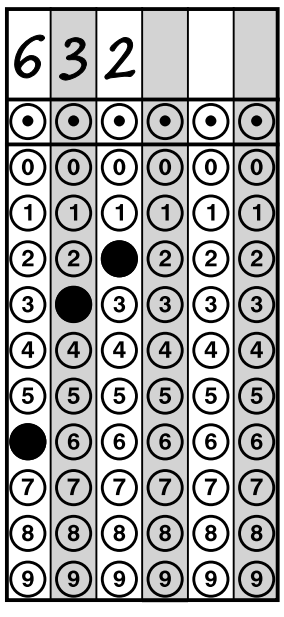

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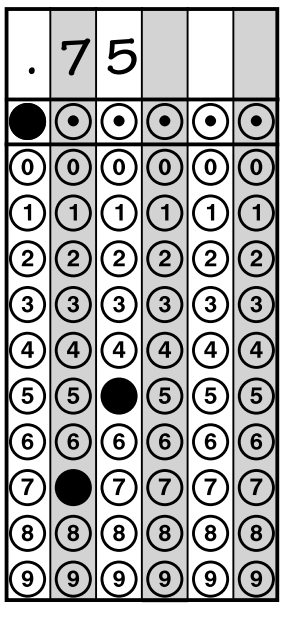
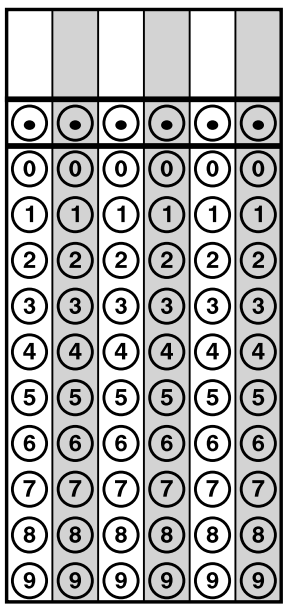


GO ON ▶

16. An animal weighs 4 pounds. A bald eagle weighs 3 times as much as this animal. How many pounds does the bald eagle weigh?

    Enter your answer in the box.



17. Which **three** comparisons are correct?

    Ⓐ 0.4 meter > 0.04 meter

    Ⓑ 0.04 meter > 0.3 meter

    Ⓒ 0.3 meter < 0.5 meter

    Ⓓ 0.5 meter > 0.65 meter

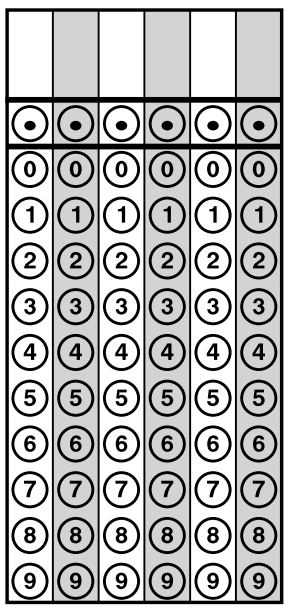
    Ⓔ 0.65 meter > 0.61 meter

    Ⓕ 0.65 meter < 0.04 meter

GO ON ►

18. Divide 738 by 6.

Enter your answer in the box.



GO ON ▶

Use the information provided to answer Part A and Part B for question 19.

19. Each student in a class chose one sport to play. The table shows the fractions of all students who chose each sport.

Sport	Fraction of All Students
soccer	$\frac{3}{10}$
football	$\frac{2}{10}$
hockey	$\frac{1}{10}$
basketball	$\frac{4}{10}$

Part A

Which equation can be used to find *s*, the fraction of all students that chose to play either soccer or basketball?

Ⓐ $\frac{3}{10} + \frac{4}{10} = s$

Ⓑ $\frac{2}{10} - \frac{1}{10} = s$

Ⓒ $\frac{4}{10} + \frac{2}{10} = s$

Ⓓ $\frac{4}{10} - \frac{3}{10} = s$

GO ON ►

Part B

What fraction of all the students chose to play either soccer or basketball?

Ⓐ $\frac{1}{10}$

Ⓑ $\frac{3}{10}$

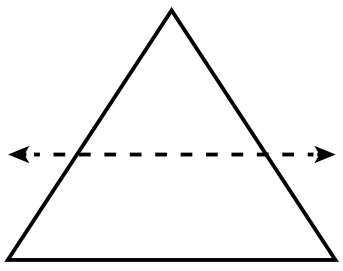
Ⓒ $\frac{6}{10}$

Ⓓ $\frac{7}{10}$

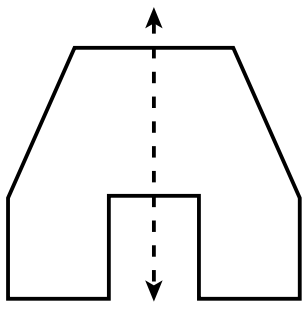
20. Which of these show lines of symmetry?

Select the **three** correct answers.

Ⓐ



Ⓑ



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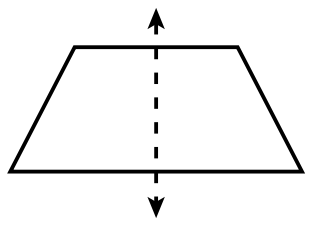

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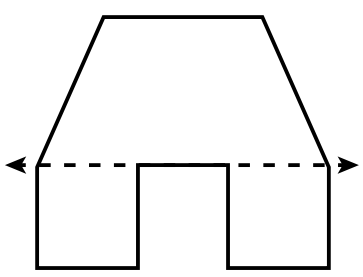

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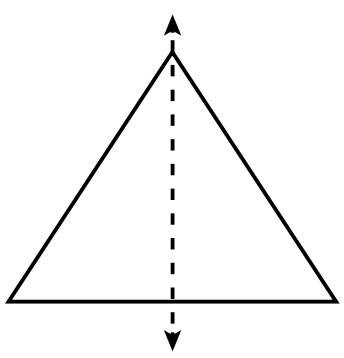

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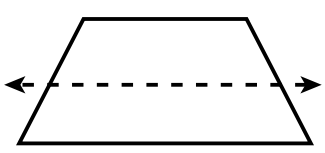
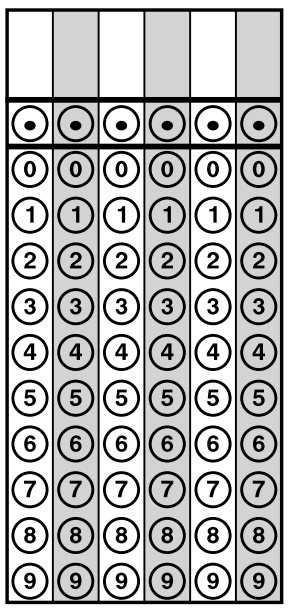


GO ON ►

21. What is the value of 9,348 + 2,237?

Enter your answer in the box.



GO ON ▶

Use the information provided to answer Part A and Part B for question 22.

22. Of the students in one school, $\frac{1}{12}$ play soccer, $\frac{3}{8}$ play basketball, $\frac{2}{5}$ take music lessons, and $\frac{2}{6}$ take dance lessons.

Part A

Which fraction is equivalent to the fraction of students who take music lessons at the school?

Ⓐ $\frac{3}{6}$

Ⓑ $\frac{5}{8}$

Ⓒ $\frac{4}{10}$

Ⓓ $\frac{4}{12}$

Part B

Which list orders the fractions from least to greatest?

Ⓐ $\frac{1}{12}, \frac{2}{5}, \frac{2}{6}, \frac{3}{8}$

Ⓑ $\frac{2}{5}, \frac{3}{8}, \frac{2}{6}, \frac{1}{12}$

Ⓒ $\frac{2}{5}, \frac{2}{6}, \frac{3}{8}, \frac{1}{12}$

Ⓓ $\frac{1}{12}, \frac{2}{6}, \frac{3}{8}, \frac{2}{5}$

GO ON ►

23. Which of these numbers are prime numbers?

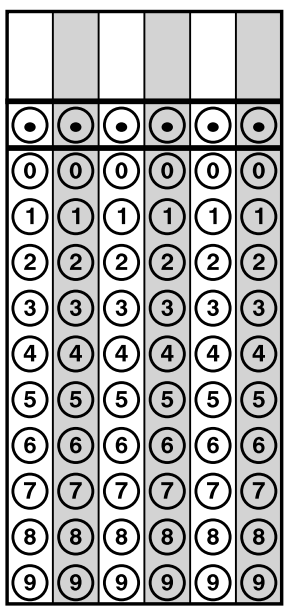
    Select the **three** numbers that are prime.

    Ⓐ 15
    Ⓑ 19
    Ⓒ 27
    Ⓓ 37
    Ⓔ 43
    Ⓕ 51

24. Mr. Kowolski ordered 35 boxes of granola bars. Each box contained 24 granola bars.

    What is the total number of granola bars Mr. Kowolski ordered?

    Enter your answer in the box.



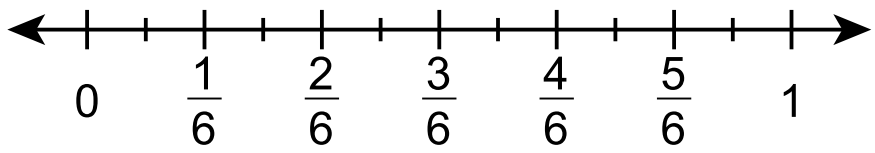
25. The value of the digit 4 in the number 42,780 is 10 times the value of the digit 4 in which number?

    Ⓐ 34,651
    Ⓑ 146,703
    Ⓒ 426,135
    Ⓓ 510,400

GO ON ►

26. Explain how to find $2 \times \frac{5}{12}$ using the number line.

Find the product.

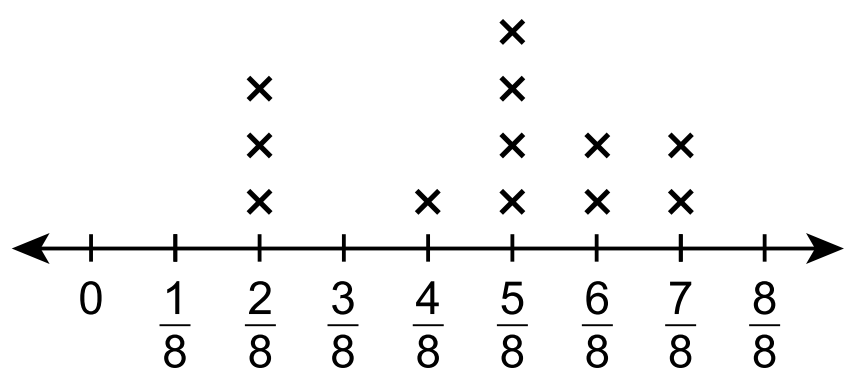


Enter your answer and your explanation in the box provided.

GO ON ►

27. The line plot represents the heights, in feet, of tomato plants in a garden.

Tomato Plant Heights (feet)



What is the difference, in feet, between the tallest and shortest plant heights?

Ⓐ $\frac{1}{8}$

Ⓑ $\frac{3}{8}$

Ⓒ $\frac{5}{8}$

Ⓓ $\frac{7}{8}$

28. Which statement about angles is true?

Ⓐ An angle is formed by two rays that do not have the same endpoint.

Ⓑ An angle that turns through $\frac{1}{360}$ of a circle has a measure of 360 degrees.

Ⓒ An angle that turns through five 1-degree angles has a measure of 5 degrees.

Ⓓ An angle measure is equal to the total length of the two rays that form the angle.

GO ON ▶

29. A student uses tubes of paint to draw on 1 poster and 2 shirts.
    - The student uses 6 tubes of paint to draw on the poster.
    - The number of tubes used for the poster is 3 times the number of tubes used for each shirt.
    - Each tube contains $\frac{1}{3}$ ounce of paint.

    How many ounces of paint does the student use for 1 shirt? How many ounces of paint does the student use to make 1 poster and 2 shirts? Show your work or explain your answers.

    Enter your answers and your work or explanation in the box provided.

STOP

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Session 3

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Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your test booklet. Do not make any stray pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely.

If a question asks you to show or explain your work, you must do so to receive full credit. Only responses written within the provided space will be scored.

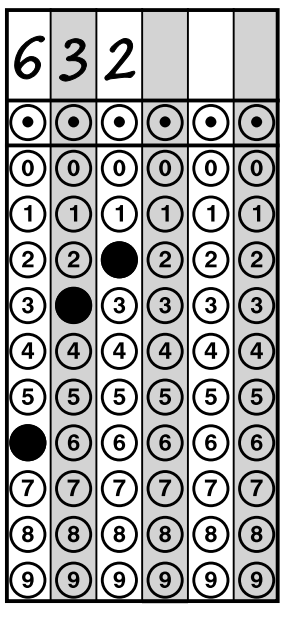
If you do not know the answer to a question, you may go to the next question. If you finish early, you may review your answers and any questions you did not answer in this session **ONLY**. Do not go past the stop sign.

GO ON ►

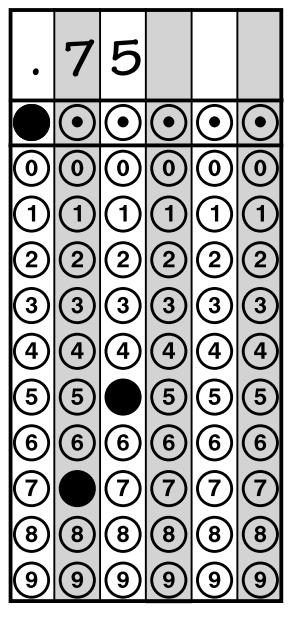
Directions for Completing the Answer Grids

1. Work the problem and find an answer.
2. Write your answer in the boxes at the top of the grid.
3. Print only one number or symbol in each box. Do not leave a blank box in the middle of an answer.
4. Under each box, fill in the circle that matches the number or symbol you wrote above. Make a solid mark that completely fills the circle.
5. Do not fill in a circle under an unused box.
6. Fractions cannot be entered into an answer grid and will not be scored. Enter fractions as decimals.
7. See below for examples on how to correctly complete an answer grid.

To answer 632 in a question, fill in the answer grid as shown on the left in your test booklet.

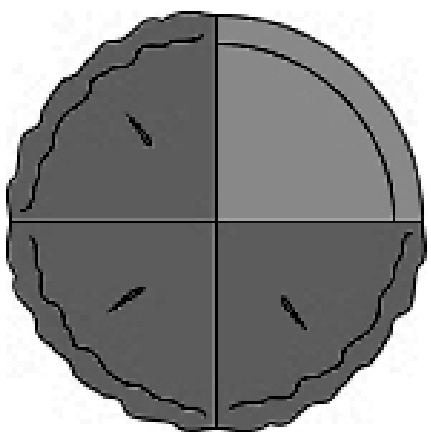


To answer .75 in a question, fill in the answer grid as shown on the right in your test booklet.



GO ON ▶

30. Jasmine ate $\frac{1}{4}$ of a pie. She drew a model to represent the fraction of the pie that she ate.



Which fraction is equivalent to the fraction of the pie that Jasmine ate?

Ⓐ $\frac{2}{5}$

Ⓑ $\frac{3}{6}$

Ⓒ $\frac{2}{8}$

Ⓓ $\frac{1}{12}$

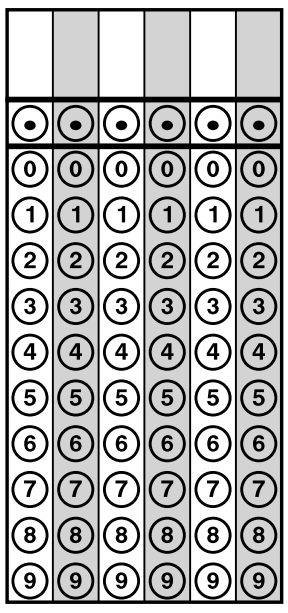
GO ON ►

31. The Amazon River is about 6,516 kilometers long.

The Mississippi River is about 3,775 kilometers long.

What is the difference, in kilometers, between these two lengths?

Enter your answer in the box.



32. Which expressions have a value of $\frac{8}{12}$?

Select the **three** correct answers.

Ⓐ $\frac{2}{12} + \frac{4}{12}$

Ⓑ $\frac{6}{12} + \frac{2}{12}$

Ⓒ $\frac{1}{12} + \frac{2}{12} + \frac{4}{12}$

Ⓓ $\frac{3}{12} + \frac{2}{12} + \frac{2}{12} + \frac{1}{12}$

Ⓔ $\frac{1}{12} + \frac{2}{12} + \frac{1}{12} + \frac{2}{12} + \frac{1}{12} + \frac{2}{12}$

Ⓕ $\frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12}$

GO ON ▶

33. Which numbers make the comparison true?

27,768 < □

Select the **two** correct answers.

Ⓐ 27,759

Ⓑ 28,744

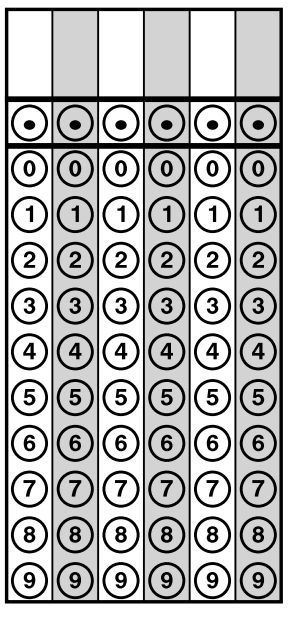
Ⓒ 26,773

Ⓓ 27,568

Ⓔ 27,836

34. The length of a desktop is 4 feet. How many inches is the length of the desktop?

Enter your answer in the box.



GO ON ►

35. During a class trip to an apple farm, a group of students picked 2,436 apples. They packed them into 6 boxes to take to the local food bank. If each box held the same number of apples, how many apples were in each box?

Ⓐ 46 apples

Ⓑ 406 apples

Ⓒ 460 apples

Ⓓ 4,060 apples

36. What is the decimal form of the fraction $\frac{9}{100}$?

Ⓐ 0.9

Ⓑ 0.09

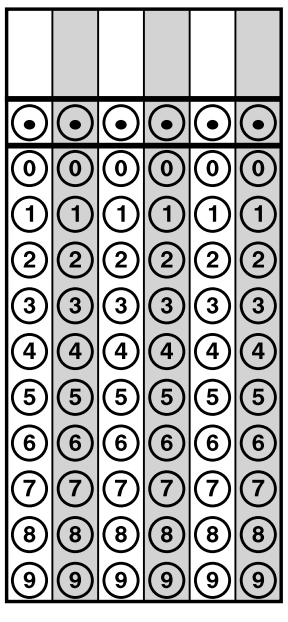
Ⓒ 0.009

Ⓓ 0.0009

GO ON ▶

37. Enter your answer in the box.

3,950 + 405 =



38. Isabel used $\frac{2}{3}$ cup of strawberries in a fruit salad. She used less than $\frac{2}{3}$ cup of blueberries in the same salad. Which of the following could be the fraction of a cup of blueberries that Isabel used?

Select the **three** fractions that could represent the fraction of a cup of blueberries.

Ⓐ $\frac{1}{2}$

Ⓑ $\frac{1}{4}$

Ⓒ $\frac{4}{5}$

Ⓓ $\frac{5}{6}$

Ⓔ $\frac{3}{8}$

GO ON ▶

39. Select the **three** choices that are factor pairs for the number 28.

Ⓐ 1 and 28

Ⓑ 2 and 14

Ⓒ 3 and 9

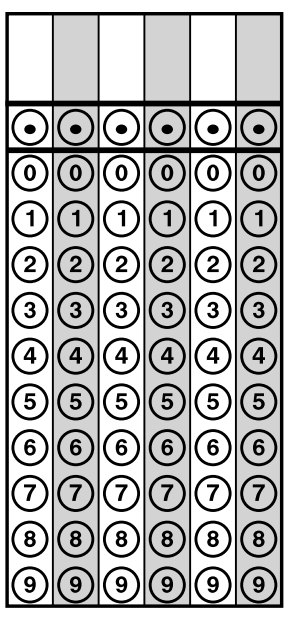
Ⓓ 4 and 7

Ⓔ 6 and 5

Ⓕ 8 and 3

40. In one year, Janie sent 4,368 text messages. Tanner sent 4 times as many text messages as Janie. How many more text messages did Tanner send than Janie?

Enter your answer in the box.



41. A student's work to add the mixed numbers $1\frac{3}{4}$ and $2\frac{3}{4}$ is shown.

$$1\frac{3}{4} + 2\frac{3}{4} = \frac{4}{4} + \frac{3}{4} + \frac{8}{4} + \frac{3}{4}$$

$$= \frac{4 + 3 + 8 + 3}{4 + 4 + 4 + 4}$$

$$= \frac{18}{16}$$

Explain any errors you see in the work. Find the correct solution. Show your work or explain your answer.

Enter your explanation, your solution, and your work or explanation in the box provided.

GO ON ►

42. A photographer has 591 photos of animals and 234 photos of plants. He wants to put all of the photos into photo books. Each page of the photo books holds 8 photos. What is the fewest number of pages he could use in the photo books?

Ⓐ 73

Ⓑ 74

Ⓒ 103

Ⓓ 104

Use the information provided to answer Part A and Part B for question 43.

43. Carl is training for a bike race.

- On Thursday, he rides his bike 7 miles.
- On Friday, he rides his bike 2 times the number of miles he rides on Thursday.
- On Saturday, he rides his bike 9 miles.

Part A

Explain how to find the total number of miles Carl rides his bike on Thursday, Friday, and Saturday. Include the total number of miles he rides in your explanation.

Enter your explanation in the box provided.

GO ON ►

Part B

Carl wants to ride his bike a total of 36 miles over the next three days. He will add the same number of miles to each distance from Part A.

Show or explain how to find the number of miles Carl should add to his distance each day.

- Include the number of miles added to his distance each day in your work or explanation.
- Include the new distance for each of the three days in your work or explanation.

Enter your explanation or your work in the box provided.

STOP

No Test Materials

STATE BOARD OF ELEMENTARY AND SECONDARY EDUCATION
TEST SECURITY POLICY[1]

The State Board of Elementary and Secondary Education approved a Test Security Policy on December 10, 1998. This has been periodically revised.

The Board of Elementary and Secondary Education holds the test security policy to be of utmost importance and deems any violation of test security to be serious.

The State Superintendent of Education may disallow test results that may have been achieved in a manner that is in violation of test security.

In cases in which test results are not accepted because of a breach of test security or action by the Louisiana Department of Education, any programmatic, evaluative, or graduation criteria dependent upon the data shall be deemed not to have been met.

Any teachers or other school personnel who breach test security or allow breaches in test security shall be disciplined in accordance with the provisions of R.S. 17:416 et seq., R.S. 17:441 et seq., R.S. 17:81.6 et seq., policy and regulations adopted by the Board of Elementary and Secondary Education, and any and all laws that may be enacted by the Louisiana Legislature.

1 Excerpts from *Bulletin 118*

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