



Our Students. Their Moment.

**New York State Testing Program
Grade 3 Common Core
Mathematics Test**

Released Questions

July 2015

munotes



THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK /
ALBANY, NY 12234

New York State Testing Program Grade 3 Common Core Mathematics Test

Released Questions

With the adoption of the New York P-12 Common Core Learning Standards (CCLS) in ELA/Literacy and Mathematics, the Board of Regents signaled a shift in both instruction and assessment. Starting in Spring 2013, New York State began administering tests designed to assess student performance in accordance with the instructional shifts and the rigor demanded by the Common Core State Standards (CCSS). To aid in the transition to new assessments, New York State has released a number of resources, including test blueprints and specifications, sample questions, and criteria for writing assessment questions. These resources can be found at <http://www.engageny.org/common-core-assessments>.

New York State administered the ELA/Literacy and Mathematics Common Core tests in April 2015 and is now making a portion of the questions from those tests available for review and use. These released questions will help students, families, educators, and the public better understand how tests have changed to assess the instructional shifts demanded by the Common Core and to assess the rigor required to ensure that all students are on track to college and career readiness.

Released Questions Are Teaching Tools

The released questions are intended to help educators, students, families, and the public understand how the Common Core is different. The questions demonstrate the way the Common Core should drive instruction and how tests have changed to better assess student performance in accordance with the instructional shifts demanded by the Common Core. They are also intended to help educators identify how the rigor of the State tests can inform classroom instruction and local assessment.

Understanding Math Questions

Multiple Choice

Multiple-choice questions are designed to assess CCLS for Mathematics. Mathematics multiple-choice questions will mainly be used to assess standard algorithms and conceptual standards. Multiple-choice questions incorporate both Standards and Standards for Mathematical Practices, some in real-world applications. Many multiple-choice questions require students to complete multiple steps. Likewise, many of these questions are linked to more than one standard, drawing on the simultaneous application of multiple skills and concepts. Within answer choices, distractors will all be based on plausible missteps.

Short and extended constructed-response questions may refer to the scoring rubric, which can be found in the Educator Guide to the 2015 Grade 3 Common Core Mathematics Test at <http://www.engageny.org/resource/test-guides-for-english-language-arts-and-mathematics>.

Short Response

Short-response questions require students to complete a task and show their work. Like multiple-choice questions, short-response questions will often require multiple steps, the application of multiple mathematics

skills, and real-world applications. Many of the short-response questions will cover conceptual and application Standards.

Extended Response

Extended-response questions ask students to show their work in completing two or more tasks or a more extensive problem. Extended-response questions allow students to show their understanding of mathematical procedures, conceptual understanding, and application. Extended-response questions may also assess student reasoning and the ability to critique the arguments of others.

CCLS Alignment

The alignment(s) to the Common Core Learning Standards for Mathematics are intended to identify the primary analytic skills necessary to successfully answer each question. However, some questions measure proficiencies described in multiple standards, including a balanced combination of procedure and conceptual understanding. For example, two-point and three-point constructed-response questions require students to show an understanding of mathematical procedures, concepts, and applications.

Released Questions Do Not Comprise a "Mini" Test

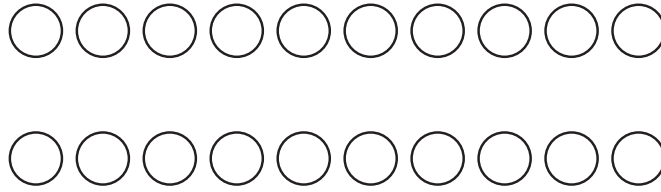
This document is NOT intended to show how operational tests look or to provide information about how teachers should administer the test; rather, the purpose of the released questions is to provide an overview of how the new test reflects the demands of the Common Core.

The released questions do not represent the full spectrum of standards assessed on the State tests, nor do they represent the full spectrum of how the Common Core should be taught and assessed in the classroom. It should not be assumed that a particular standard will be measured with an identical question in future assessments. Specific criteria for writing test questions as well as additional instruction and assessment information is available at <http://www.engageny.org/common-core-assessments>.

One full-credit student response is provided with each released constructed-response question. The example is provided to illustrate one of many ways students can achieve full credit in answering the test question. The sample response is not intended to represent a best response nor does it illustrate the only way a student could earn full credit.

1

Which expression could be used to find the total number of circles shown below?



- A** $2 + 20$
- B** 2×20
- C** $2 + 10$
- D** 2×10

Key: D

Primary CCLS: 3.OA,1

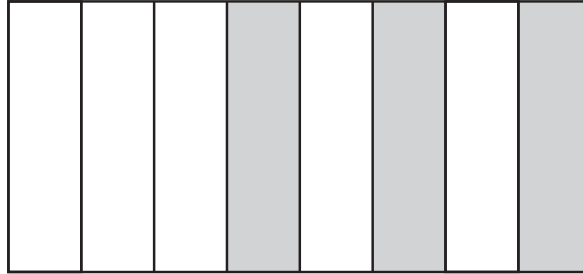
Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as 5×7 .

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 84%

2

Amar and his friends made a flag for their clubhouse. They divided the flag into equal sections and colored 3 of the sections gray. The flag is shown below.



What fraction of the flag is gray?

- A** $\frac{1}{3}$
- B** $\frac{3}{8}$
- C** $\frac{3}{5}$
- D** $\frac{5}{8}$

Key: B

Primary CCLS: 3.NF.1

Understand a fraction $\frac{1}{b}$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction $\frac{a}{b}$ as the quantity formed by a parts of size $\frac{1}{b}$.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 92%

6

Alexis read 63 pages of a book in seven days. She read an equal number of pages each day. The equation below can be used to find the total number of pages she read each day.

$$63 \div 7 = \underline{\quad? \quad}$$

What is the total number of pages Alexis read each day?

- A** 8
- B** 9
- C** 56
- D** 70

Key: B

Primary CCLS: 3.OA,4

Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = ? \div 3$, $6 \times 6 = ?$.

Secondary CCLS: 3.OA,3

Percentage of Students Statewide Who Answered Correctly: 81%

8

Selena had 204 stamps in her collection. She bought 47 more stamps. If she gave 38 stamps to her brother, how many stamps does Selena have now?

- A** 119
- B** 195
- C** 213
- D** 289

Key: C

Primary CCLS: 3.OA,8

Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 77%

11

The tally chart below shows the favorite seasons of Mr. Slater's students.

OUR FAVORITE SEASONS

Season	Number of Students
Spring	
Summer	
Fall	
Winter	

Which picture graph correctly shows the data?

OUR FAVORITE SEASONS

Season	Number of Students
Spring	🍷🍷🍷🍷
Summer	🍷🍷🍷🍷🍷🍷
Fall	🍷🍷
Winter	🍷🍷🍷🍷🍷🍷🍷🍷

A

KEY
🍷 = 2 students

OUR FAVORITE SEASONS

Season	Number of Students
Spring	🍷🍷🍷
Summer	🍷🍷🍷
Fall	🍷
Winter	🍷🍷🍷🍷

C

KEY
🍷 = 2 students

OUR FAVORITE SEASONS

Season	Number of Students
Spring	🍷🍷
Summer	🍷🍷🍷
Fall	🍷🍷
Winter	🍷🍷🍷🍷

B

KEY
🍷 = 2 students

OUR FAVORITE SEASONS

Season	Number of Students
Spring	🍷🍷
Summer	🍷🍷🍷
Fall	🍷
Winter	🍷🍷🍷🍷

D

KEY
🍷 = 2 students

Key: D

Primary CCLS: 3.MD,3

Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one-and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 53%

144030038_3

13

What is 637 rounded to the nearest ten?

- A** 600
- B** 630
- C** 640
- D** 647

Key: C

Primary CCLS: 3.NBT,1

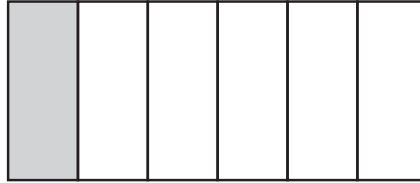
Use place value understanding to round whole numbers to the nearest 10 or 100.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 73%

14

Nadia was working on a math problem. She was asked to shade parts of the figure so that $\frac{5}{6}$ of the figure below was shaded.



What should Nadia do to complete the math problem?

- A** Nadia should shade two more parts of the figure.
- B** Nadia should shade three more parts of the figure.
- C** Nadia should shade four more parts of the figure.
- D** Nadia should shade five more parts of the figure.

Key: C

Primary CCLS: 3.NF,1

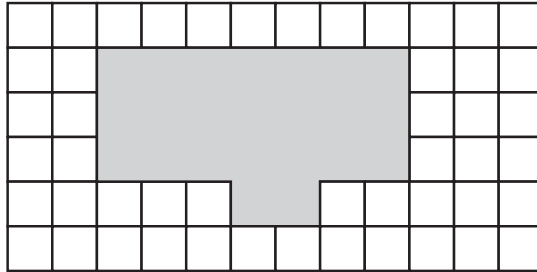

Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.

Secondary CCLS: 3.G,2

Percentage of Students Statewide Who Answered Correctly: 80%

16

What is the area, in square units, of the shaded shape on the grid below?

**KEY** = 1 square unit

- A** 22
- B** 23
- C** 28
- D** 72

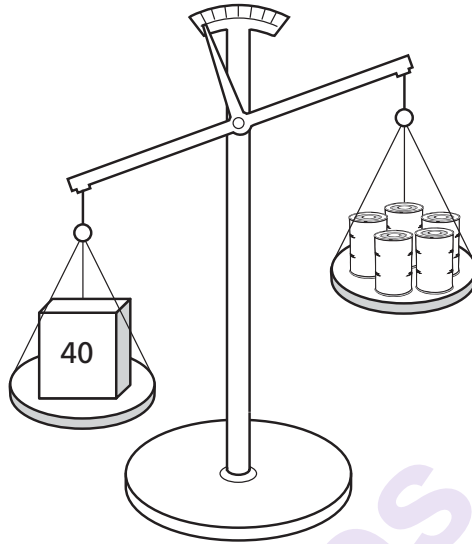
Key: B**Primary CCLS: 3.MD,7,d**

Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

Secondary CCLS: None**Percentage of Students Statewide Who Answered Correctly: 66%**

17

The picture below shows that one box is heavier than 5 identical cans.



The box has a mass of 40 kilograms. What could be the mass, in kilograms, of 1 can?

- A** 40
- B** 10
- C** 8
- D** 6

Key: D

Primary CCLS: 3.MD,2

Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.










Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 43%


20

Mr. Stone asked each of his students to name one favorite hobby. He made the picture graph shown below to display the data.

STUDENTS' FAVORITE HOBBIES

Hobby	Number of Students
Drawing	 
Reading	  
Sports	   

KEY

 = 2 students

Which table represents the same data as the picture graph?

A

STUDENTS' FAVORITE HOBBIES	
Hobby	Number of Students
Drawing	4
Reading	6
Sports	8

C

STUDENTS' FAVORITE HOBBIES	
Hobby	Number of Students
Drawing	2
Reading	3
Sports	4

B

STUDENTS' FAVORITE HOBBIES	
Hobby	Number of Students
Drawing	8
Reading	6
Sports	4

D

STUDENTS' FAVORITE HOBBIES	
Hobby	Number of Students
Drawing	4
Reading	5
Sports	6

Key: A

Primary CCLS: 3.MD,3

Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one-and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 76%

134030032_1

25

Which expression has the same value as $(8 \times 5) + (8 \times 3)$?

- A** 8×8
- B** 8×15
- C** $16 + 8$
- D** $13 + 11$

Key: A

Primary CCLS: 3.OA,5

Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 74%

134030020_3

28

Alex sorted 20 toy cars into 4 groups with the same number of cars in each group. Which expression represents the number of toy cars in each group?

- A** 20×4
- B** $20 + 4$
- C** $20 \div 4$
- D** $20 - 4$

Key: C**Primary CCLS: 3.OA,2**

Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.

Secondary CCLS: None**Percentage of Students Statewide Who Answered Correctly: 70%**

144030025_1

30

A certain dance class has 42 dancers. The teacher wants to place the class into six equal groups. Which number sentence could be used to find the number of dancers that will be in each group?

- A** $6 \times \underline{\quad? \quad} = 42$
- B** $6 \div \underline{\quad? \quad} = 42$
- C** $42 + 6 = \underline{\quad? \quad}$
- D** $42 - 6 = \underline{\quad? \quad}$

Key: A**Primary CCLS: 3.OA,6**

Understand division as an unknown-factor problem. For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.

Secondary CCLS: None**Percentage of Students Statewide Who Answered Correctly: 74%**

144030044_3

31

Noel read 90 minutes each day for 6 days. Tyra read 60 minutes each day for 8 days. What is the difference, in minutes, between the total amount of time Noel read and the total amount of time Tyra read?

- A** 30
- B** 40
- C** 60
- D** 80

Key: C

Primary CCLS: 3.NBT,3

Multiply one-digit whole numbers by multiples of 10 in the range 10 – 90 (e.g., 9×80 , 5×60) using strategies based on place value and properties of operations.

Secondary CCLS: 3.MD,1

Percentage of Students Statewide Who Answered Correctly: 33%

144030011_1

32

Mr. Bachu bought 24 pounds of potting soil. Which sentence could describe the potting soil Mr. Bachu bought?

- A** He bought 6 bags that weigh 4 pounds each.
- B** He bought 5 bags that weigh 4 pounds each.
- C** He bought 4 bags that weigh 20 pounds each.
- D** He bought 10 bags that weigh 14 pounds each.

Key: A

Primary CCLS: 3.OA,3

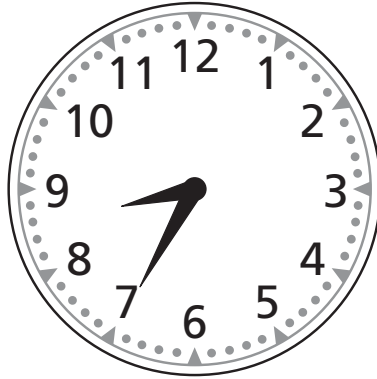
Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 71%

33

Pedro left home this morning at the time shown on the clock below.



Tina left home 20 minutes after Pedro left. Carlos left home 18 minutes after Tina left. At what time did Carlos leave home this morning?

- A** 7:57 a.m.
- B** 8:13 a.m.
- C** 8:38 a.m.
- D** 9:13 a.m.

Key: D

Primary CCLS: 3.MD.1

Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 48%

34

Mrs. Allen made 8 pitchers of fruit punch for a party. She used 2 liters of water to make each pitcher of fruit punch. How many liters of water did Mrs. Allen use in all?

- A** 4
- B** 6
- C** 10
- D** 16

Key: D

Primary CCLS: 3.MD,2

Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 64%

37

The table below shows the number of tickets for the school play that were sold each day.

SCHOOL PLAY TICKETS

Day	Number of Tickets Sold
Thursday	238
Friday	361
Saturday	249
Sunday	328

On which day does the number of tickets sold round to 300, when rounded to the nearest hundred?

- A** Thursday
- B** Friday
- C** Saturday
- D** Sunday

Key: D

Primary CCLS: 3.NBT,1

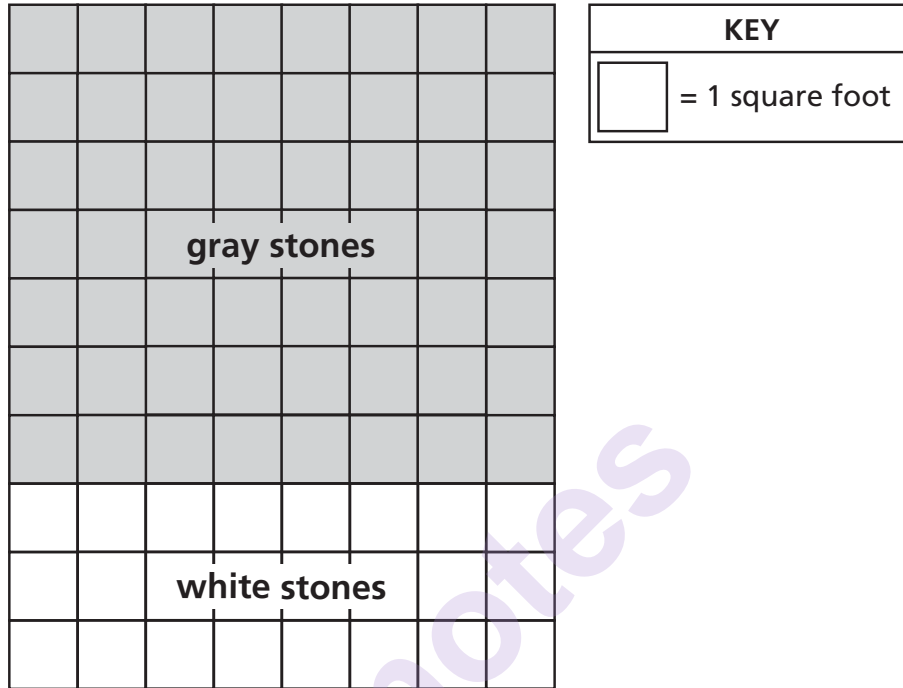
Use place value understanding to round whole numbers to the nearest 10 or 100.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 65%

38

Paul has gray and white paving stones in his patio. A diagram of his patio is shown below.



Which equation can be used to find the total area, in square feet, of Paul's patio?

- A** $(8 \times 7) + (8 \times 3) = \underline{\quad? \quad}$
- B** $(8 + 7) \times (8 + 3) = \underline{\quad? \quad}$
- C** $(10 \times 7) + (10 \times 3) = \underline{\quad? \quad}$
- D** $(10 + 7) \times (10 + 3) = \underline{\quad? \quad}$

Key: A

Primary CCLS: 3.MD,7,c

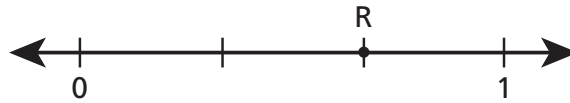
Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.

Secondary CCLS: 3.OA,3

Percentage of Students Statewide Who Answered Correctly: 77%

39

Which fraction represents the location of point R on the number line below?



A $\frac{1}{3}$

B $\frac{2}{4}$

C $\frac{2}{3}$

D $\frac{3}{4}$

Key: C

Primary CCLS: 3.NF,2,b

Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 67%

40

The school store sells pencils in packages of 4. Zoe bought enough packages to have 28 pencils. The equation below can be used to determine the number of packages Zoe bought.

$$4 \times \underline{\quad ? \quad} = 28$$

What is the total number of packages that Zoe bought?

- A** 6
- B** 7
- C** 24
- D** 32

Key: B

Primary CCLS: 3.OA,4

Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = ? \div 3$, $6 \times 6 = ?$.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 83%

45

Rick has 15 muffins. He will give each of his three children one muffin each day. The equation below can be used to find the total number of days he can give the muffins to his children before they are gone.

$$15 \div \underline{\quad?} = 3$$

What is the total number of days Rick can give the muffins to his children?

- A** 4
- B** 5
- C** 12
- D** 18

Key: B

Primary CCLS: 3.OA,3

Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 88%

134030038_4

47

Which number sentence could also be used to find the missing number in the equation $10 \times \underline{\quad ? \quad} = 60$?

A $60 \times 10 = \underline{\quad ? \quad}$

B $60 - 10 = \underline{\quad ? \quad}$

C $60 + 10 = \underline{\quad ? \quad}$

D $60 \div 10 = \underline{\quad ? \quad}$

Key: D

Primary CCLS: 3.OA,6

Understand division as an unknown-factor problem. For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 78%

134030058_3

48

Which number sentence is true?

A $\frac{2}{2} = \frac{2}{6}$

B $\frac{4}{6} = \frac{2}{2}$

C $\frac{1}{2} = \frac{3}{6}$

D $\frac{2}{6} = \frac{1}{2}$

Key: C

Primary CCLS: 3.NF,3,b

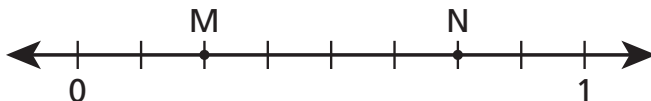
Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$, $4/6 = 2/3$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.

Secondary CCLS: None

Percentage of Students Statewide Who Answered Correctly: 60%

49

On the number line below, the distance from 0 to 1 represents a whole.



What fraction of the whole represents the distance from point M to point N?

Answer _____

Complete the number line below so that each part represents $\frac{1}{4}$ of the distance from 0 to 1.



Primary CCLS: 3.NF,2,a

Represent a fraction $\frac{1}{b}$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $\frac{1}{b}$ and that the endpoint of the part based at 0 locates the number $\frac{1}{b}$ on the number line.

Secondary CCLS: None

Statewide Average Points Earned: 0.92 out of 2

49

On the number line below, the distance from 0 to 1 represents a whole.



What fraction of the whole represents the distance from point M to point N?

Answer

$\frac{4}{8}$

Complete the number line below so that each part represents $\frac{1}{4}$ of the distance from 0 to 1.



Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. An accurate fraction of the whole is given for the distance between M and N ($\frac{4}{8}$) in the first half. Then, the number line in the second half is appropriately segmented so that each part represents $\frac{1}{4}$ of the distance from 0 to 1.

50

An art teacher is planning a painting project for her classes. She made the table below to show how much paint she would need for each class.

PAINT FOR ONE CLASS

Color	Amount Needed (pints)
Red	4
Yellow	2
Blue	3

What is the total number of pints of paint that will be needed for her five classes?

Show your work.

Answer _____ pints

Primary CCLS: 3.OA,3

Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Secondary CCLS: 3.OA,1

Statewide Average Points Earned: 1.17 out of 2

An art teacher is planning a painting project for her classes. She made the table below to show how much paint she would need for each class.

PAINT FOR ONE CLASS

Color	Amount Needed (pints)
Red	4
Yellow	2
Blue	3

What is the total number of pints of paint that will be needed for her five classes?

Show your work.

$$\begin{array}{r}
 4 \times 5 = 20 \\
 2 \times 5 = 10 \\
 5 \times 3 = 15 \\
 \hline
 45
 \end{array}$$

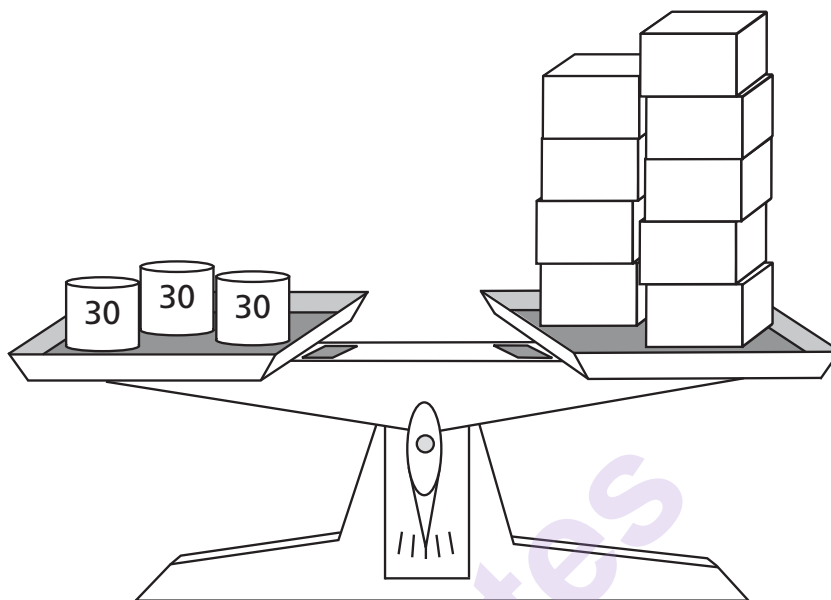
Answer 45 pints

Score Point 2 (out of 2 points)

This response contains the correct solution (45) and demonstrates a thorough understanding of the mathematical concepts in the task. The pints for each paint color are multiplied by the total number of classes ($4 \times 5 = 20$, $2 \times 5 = 10$, $5 \times 3 = 15$). The sums are added to find the total number of pints needed for the five classes ($20 + 10 + 15 = 45$).

51

The picture below shows that 3 cans have the same mass as 9 identical boxes. Each can has a mass of 30 grams.



What is the mass, in grams, of each box?

Show your work.

Answer _____ grams

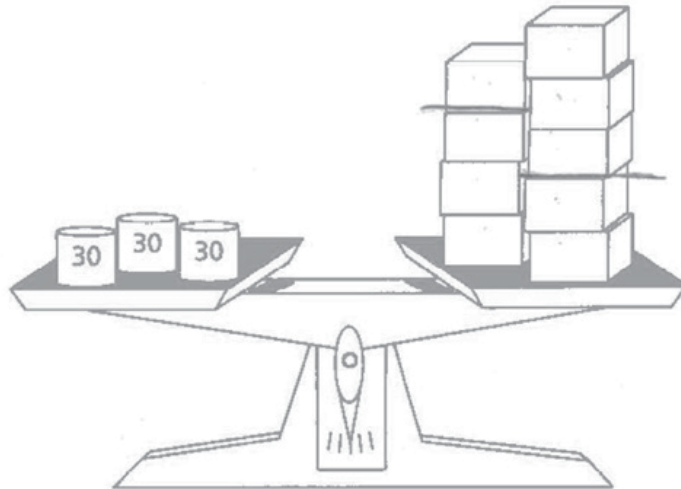
Primary CCLS: 3.OA.3

Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Secondary CCLS: None

Statewide Average Points Earned: 1.01 out of 2

The picture below shows that 3 cans have the same mass as 9 identical boxes.
Each can has a mass of 30 grams.



What is the mass, in grams, of each box?

Show your work.

Handwritten work showing the solution:

$$30 + 30 + 30 = 90$$

Below the equation is a drawing of the balance scale with 3 cans on the left pan and 9 boxes on the right pan.

$$\begin{array}{r} 90 \\ \div 9 \text{ boxes} \\ \hline 10 \end{array}$$

Answer: 10 grams

Score Point 2 (out of 2 points)

This response contains the correct solution (10) and demonstrates a thorough understanding of the mathematical concepts embodied in the task. The total mass for the 3 cans is calculated ($30 + 30 + 30 = 90$) and then divided by the number of boxes since both sides have equal mass ($90 \div 9 = 10$) to arrive at the correct solution.

52

Ryan played a computer game three times. His score on each of the first two games is shown in the table below.

COMPUTER GAME SCORES

Game	Ryan	
1	215	
2	225	
3		
	714	Total

Ryan's total score for all 3 games was 714. What was Ryan's score in game 3?

Show your work.

Answer _____

Primary CCLS: 3.OA,8

Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Secondary CCLS: None

Statewide Average Points Earned: 1.13 out of 2

Ryan played a computer game three times. His score on each of the first two games is shown in the table below.

COMPUTER GAME SCORES

Game	Ryan
1	215
2	225
3	274
	714
	Total

Ryan's total score for all 3 games was 714. What was Ryan's score in game 3?

Show your work.

$$\begin{array}{r}
 215 \\
 225 \\
 + 274 \\
 \hline
 714
 \end{array}$$

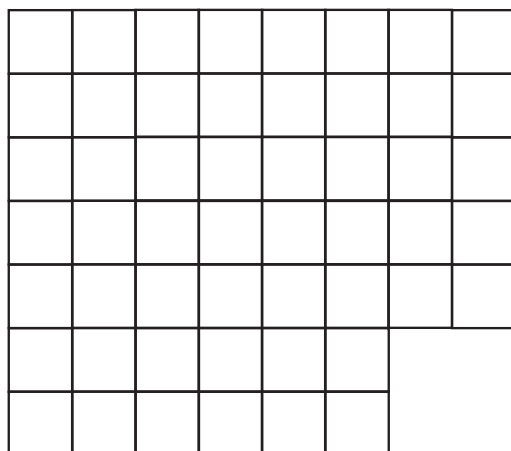
Answer: 274


Score Point 2 (out of 2 points)

This response contains the correct solution (274) and demonstrates a thorough understanding of the mathematical concepts in the task. The response demonstrates use of an inverse operation to find the score of Game 3. The correct solution of 274 is found using addition of the three scores to total 714 ($215 + 225 + 274 = 714$).

53

Ms. Chen tiled her kitchen and bathroom floors. The total area of **both** floors she tiled was 92 square feet. The diagram below shows the tiles on the kitchen floor.

KITCHEN FLOOR

KEY	
	= 1 square foot

What is the area, in square feet, of the bathroom floor?

Show your work.

Answer _____ square feet

Primary CCLS: 3.MD,6

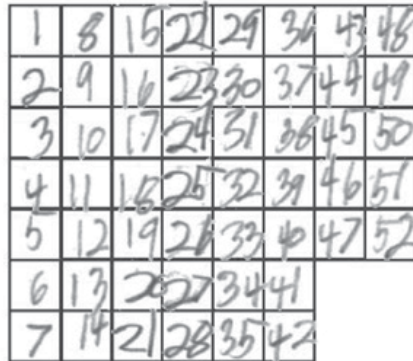
Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).


Secondary CCLS: 3.MD,5,b

Statewide Average Points Earned: 0.88 out of 2

Ms. Chen tiled her kitchen and bathroom floors. The total area of both floors she tiled was 92 square feet. The diagram below shows the tiles on the kitchen floor.

KITCHEN FLOOR



KEY	
	= 1 square foot

What is the area, in square feet, of the bathroom floor?

Show your work.

$$\begin{array}{r} 92 \\ - 52 \\ \hline 40 \end{array}$$

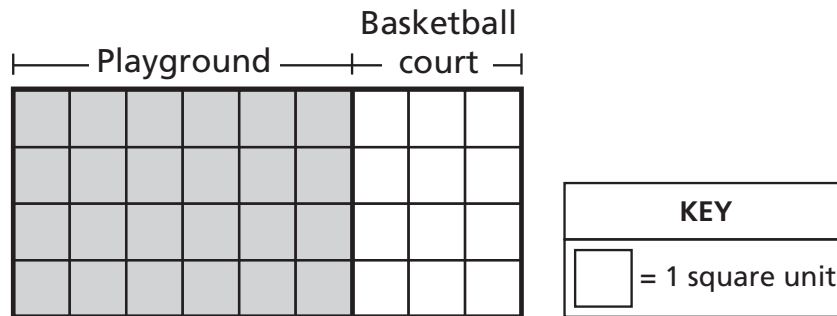
Answer 40 square feet

Score Point 2 (out of 2 points)

This response contains the correct solution (40) and demonstrates a thorough understanding of the mathematical concepts in the task. The kitchen floor tiles are counted up (1, 2, 3 . . . 50, 51, 52) using the grid spaces to find 52 total kitchen tiles. The kitchen floor area is subtracted from the total area of both floors to find the area of the bathroom floor ($92 - 52 = 40$).

55

The grid below shows a playground and a basketball court at a park.



What is the area of the playground?

Answer _____ square units

What is the total area of both the playground and the basketball court?

Answer _____ square units

Fill in the blanks to show how the number sentence below can be used to find the total area of the playground and the basketball court.

Answer $(4 \times \underline{\quad}) + (4 \times \underline{\quad}) = 4 \times (\underline{\quad} + \underline{\quad})$

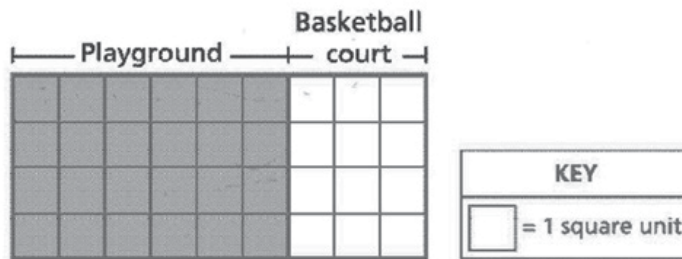
Primary CCLS: 3.MD,7,c

Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.

Secondary CCLS: None

Statewide Average Points Earned: 1.93 out of 3

The grid below shows a playground and a basketball court at a park.



What is the area of the playground?

Answer 24 square units

What is the total area of both the playground and the basketball court?

Answer 36 square units

Fill in the blanks to show how the number sentence below can be used to find the total area of the playground and the basketball court.

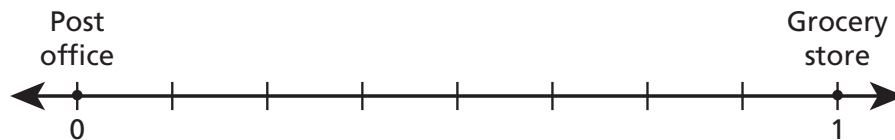
Answer $(4 \times \underline{6}) + (4 \times \underline{3}) = 4 \times (\underline{6} + \underline{3})$

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The correct area of the playground is provided (24) and the combined area of the playground and basketball court is also correct (36). The number sentence is filled in correctly using the distributive property $[(4 \times 6) + (4 \times 3) = 4 \times (6 + 3)]$.

56

Amy and Barney live on a road between the post office and the grocery store. The post office and the grocery store are 1 mile apart. The road is represented by the number line below.



- Amy lives $\frac{2}{8}$ mile from the post office.
- Barney lives $\frac{3}{8}$ mile from Amy's house.

Draw and label points for Amy's house and Barney's house on the number line. Use labels A for Amy and B for Barney.

How far does Barney live from the post office?

Answer _____ mile

Primary CCLS: 3.NF,2,b

Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.

Secondary CCLS: None

Statewide Average Points Earned: 1.42 out of 3

Amy and Barney live on a road between the post office and the grocery store. The post office and the grocery store are 1 mile apart. The road is represented by the number line below.



- Amy lives $\frac{2}{8}$ mile from the post office.
- Barney lives $\frac{3}{8}$ mile from Amy's house.

Draw and label points for Amy's house and Barney's house on the number line. Use labels A for Amy and B for Barney.

How far does Barney live from the post office?

$$\frac{5}{8}$$

Answer $\frac{5}{8}$ mile

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. Points A and B are correctly plotted and labeled on the number line. The correct solution of $\frac{5}{8}$ of a mile is provided for the second part.

2-Point Holistic Rubric

Score Points:

2 Points	<p>A two-point response includes the correct solution to the question and demonstrates a thorough understanding of the mathematical concepts and/or procedures in the task.</p> <p>This response</p> <ul style="list-style-type: none">• indicates that the student has completed the task correctly, using mathematically sound procedures• contains sufficient work to demonstrate a thorough understanding of the mathematical concepts and/or procedures• may contain inconsequential errors that do not detract from the correct solution and the demonstration of a thorough understanding
1 Point	<p>A one-point response demonstrates only a partial understanding of the mathematical concepts and/or procedures in the task.</p> <p>This response</p> <ul style="list-style-type: none">• correctly addresses only some elements of the task• may contain an incorrect solution but applies a mathematically appropriate process• may contain the correct solution but required work is incomplete
0 Points*	<p>A zero-point response is incorrect, irrelevant, incoherent, or contains a correct solution obtained using an obviously incorrect procedure. Although some elements may contain correct mathematical procedures, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.</p>

* Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted).

3-Point Holistic Rubric

Score Points:

3 Points	<p>A three-point response includes the correct solution(s) to the question and demonstrates a thorough understanding of the mathematical concepts and/or procedures in the task.</p> <p>This response</p> <ul style="list-style-type: none"> • indicates that the student has completed the task correctly, using mathematically sound procedures • contains sufficient work to demonstrate a thorough understanding of the mathematical concepts and/or procedures • may contain inconsequential errors that do not detract from the correct solution(s) and the demonstration of a thorough understanding
2 Points	<p>A two-point response demonstrates a partial understanding of the mathematical concepts and/or procedures in the task.</p> <p>This response</p> <ul style="list-style-type: none"> • appropriately addresses most, but not all, aspects of the task using mathematically sound procedures • may contain an incorrect solution but provides sound procedures, reasoning, and/or explanations • may reflect some minor misunderstanding of the underlying mathematical concepts and/or procedures
1 Point	<p>A one-point response demonstrates only a limited understanding of the mathematical concepts and/or procedures in the task.</p> <p>This response</p> <ul style="list-style-type: none"> • may address some elements of the task correctly but reaches an inadequate solution and/or provides reasoning that is faulty or incomplete • exhibits multiple flaws related to misunderstanding of important aspects of the task, misuse of mathematical procedures, or faulty mathematical reasoning • reflects a lack of essential understanding of the underlying mathematical concepts • may contain the correct solution(s) but required work is limited
0 Points*	<p>A zero-point response is incorrect, irrelevant, incoherent, or contains a correct solution obtained using an obviously incorrect procedure. Although some elements may contain correct mathematical procedures, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.</p>

* Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted).

2015 2- and 3-Point Mathematics Scoring Policies

Below are the policies to be followed while scoring the mathematics tests for all grades:

1. If a student does the work in other than a designated “Show your work” area, that work should still be scored. (Additional paper is an allowable accommodation for a student with disabilities if indicated on the student’s Individual Education Program or Section 504 Accommodation Plan.)
2. If the question requires students to show their work, and the student shows appropriate work and clearly identifies a correct answer but fails to write that answer in the answer blank, the student should still receive full credit.
3. In questions that provide ruled lines for students to write an explanation of their work, mathematical work shown elsewhere on the page should be considered and scored.
4. If the student provides one legible response (and one response only), teachers should score the response, even if it has been crossed out.
5. If the student has written more than one response but has crossed some out, teachers should score only the response that has **not** been crossed out.
6. Trial-and-error responses are **not** subject to Scoring Policy #5 above, since crossing out is part of the trial-and-error process.
7. If a response shows repeated occurrences of the same conceptual error within a question, the student should **not** be penalized more than once.
8. In questions that require students to provide bar graphs,
 - in Grades 3 and 4 only, touching bars are acceptable
 - in Grades 3 and 4 only, space between bars does **not** need to be uniform
 - in all grades, widths of the bars must be consistent
 - in all grades, bars must be aligned with their labels
 - in all grades, scales must begin at 0, but the 0 does **not** need to be written
9. In questions requiring number sentences, the number sentences must be written horizontally.
10. In pictographs, the student is permitted to use a symbol other than the one in the key, provided that the symbol is used consistently in the pictograph; the student does not need to change the symbol in the key. The student may **not**, however, use multiple symbols within the chart, nor may the student change the value of the symbol in the key.
11. If students are not directed to show work, any work shown will not be scored. This applies to items that do not ask for any work and items that ask for work for one part and do not ask for work in another part.
12. Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted). This is not to be confused with a score of zero wherein the student does respond to part or all of the question but that work results in a score of zero.