Kentucky Summative Assessments



Grade 3 Mathematics Released Items 2023

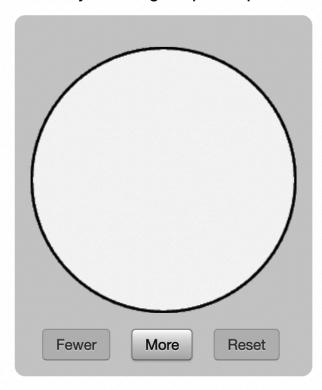


1

MA0320095

Create a fraction model to represent $\frac{1}{6}$ of the circle shaded.

Divide the model into the correct number of parts by using the More and Fewer buttons. Shade the model by selecting the part or parts.





Kentucky Summative Assessments

Spring 2023
Grade 3
Mathematics

Item: MA0320095*

Book Question Number: 1

Standard: KY.3.G.2

Item Type: TE Key: see below

| | Number of | Percent | Average | Item Breakout Statistic | cs - Score Percentages |
|-------------------------------------|-----------|---------|------------|-------------------------|------------------------|
| Student Group | Students | Correct | Item Score | Score 0 (%) | Score 1 (%) |
| All Students | 22,214 | 78.0% | 0.78 | 22% | 78% |
| Gender | | | | | |
| Female | 10,844 | 78.9% | 0.79 | 21% | 79% |
| Male | 11,369 | 77.1% | 0.77 | 23% | 77% |
| Ethnicity | | | | | |
| African American | 2,330 | 63.8% | 0.64 | 36% | 64% |
| American Indian or Alaska Native | 35 | 80.0% | 0.80 | 20% | 80% |
| Asian | 429 | 85.1% | 0.85 | 15% | 85% |
| Hispanic or Latino | 1,770 | 74.5% | 0.75 | 25% | 75% |
| Native Hawaiian or Pacific Islander | 43 | 79.1% | 0.79 | 21% | 79% |
| White (non-Hispanic) | 16,353 | 80.3% | 0.80 | 20% | 80% |
| Two or more races | 1,251 | 75.9% | 0.76 | 24% | 76% |
| | | | | | |
| Migrant | 106 | 76.4% | 0.76 | 24% | 76% |
| | | | | | |
| English Learner | 1,632 | 73.3% | 0.73 | 27% | 73% |
| | | | | | |
| Economically Disadvantaged | 13,833 | 74.3% | 0.74 | 26% | 74% |
| | | | | | |
| Students with Disabilities | 3,473 | 69.3% | 0.69 | 31% | 69% |

Key: The model(s) should have 1 of 6 segments shaded, or an equivalent fraction.

^{*} Calculator section

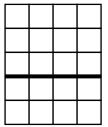
2

MA0320176_4,1

Which area models can be used to show the value of the expression $(4 \times 2) + (4 \times 3)$?

Select **two** correct answers.

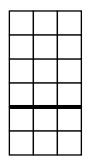
A



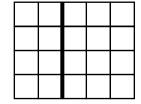
В



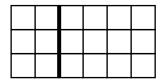
C



D



E





Kentucky Summative Assessments

Spring 2023 Grade 3 Mathematics

Item: MA0320176

Book Question Number: 2

Standard: KY.3.MD.7.c

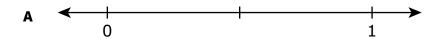
Item Type: MS Key: A,D

| | Number of | Percent | Average | Item Breakout Statistics - Score Percentage | | | | |
|-------------------------------------|-----------|---------|------------|---|-------------|-------------|--|--|
| Student Group | Students | Correct | Item Score | Score 0 (%) | Score 1 (%) | Score 2 (%) | | |
| All Students | 37,109 | 76.7% | 1.53 | 10% | 27% | 63% | | |
| Gender | | | , | | • | | | |
| Female | 18,021 | 76.5% | 1.53 | 10% | 27% | 63% | | |
| Male | 19,086 | 76.9% | 1.54 | 10% | 27% | 64% | | |
| Ethnicity | | | | | | | | |
| African American | 3,910 | 66.2% | 1.32 | 15% | 39% | 47% | | |
| American Indian or Alaska Native | 57 | 77.2% | 1.54 | 11% | 25% | 65% | | |
| Asian | 791 | 85.3% | 1.71 | 6% | 18% | 76% | | |
| Hispanic or Latino | 3,293 | 71.6% | 1.43 | 13% | 30% | 57% | | |
| Native Hawaiian or Pacific Islander | 66 | 77.3% | 1.55 | 6% | 33% | 61% | | |
| White (non-Hispanic) | 26,926 | 78.7% | 1.57 | 9% | 25% | 66% | | |
| Two or more races | 2,063 | 74.4% | 1.49 | 11% | 29% | 60% | | |
| | | | | | | | | |
| Migrant | 192 | 71.1% | 1.42 | 16% | 27% | 58% | | |
| | | | | | | | | |
| English Learner | 3,326 | 70.8% | 1.42 | 13% | 31% | 55% | | |
| | | | | | | | | |
| Economically Disadvantaged | 23,256 | 72.6% | 1.45 | 12% | 31% | 57% | | |
| | | | | | | | | |
| Students with Disabilities | 6,737 | 66.1% | 1.32 | 16% | 36% | 48% | | |

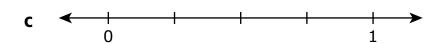


MA0320050_3

Which number line has parts that are each $\frac{1}{4}$ of a whole?











Kentucky Summative Assessments

Spring 2023 Grade 3 Mathematics

Item: MA0320050*

Book Question Number: 3

Standard: KY.3.NF.2.a

Item Type: MC

Key: C

| | Number of | Percent Correct | Average Item Score | Item Breakout Statistics - Answer Choice Options | | | | |
|-------------------------------------|-----------|--------------------|-----------------------|--|-------|----------|-------|--|
| Student Group | Students | | | A (%) | B (%) | C (%) | D (%) | |
| All Students | 37,876 | 66% | 0.66 | 8% | 14% | 66% | 12% | |
| Gender | | | | | | | | |
| Female | 18,488 | 65% | 0.65 | 9% | 14% | 65% | 12% | |
| Male | 19,386 | 66% | 0.66 | 8% | 14% | 66% | 12% | |
| Ethnicity | | | | | | | | |
| African American | 3,981 | 51% | 0.51 | 14% | 19% | 51% | 16% | |
| American Indian or Alaska Native | 69 | 67% | 0.67 | 12% | 9% | 67% | 13% | |
| Asian | 823 | 78% | 0.78 | 5% | 8% | 78% | 9% | |
| Hispanic or Latino | 3,345 | 61% | 0.61 | 9% | 16% | 61% | 14% | |
| Native Hawaiian or Pacific Islander | 68 | 69% | 0.69 | 7% | 4% | 69% | 19% | |
| White (non-Hispanic) | 27,419 | 68% | 0.68 | 7% | 13% | 68% | 11% | |
| Two or more races | 2,168 | 62% | 0.62 | 8% | 15% | 62% | 14% | |
| | , | | | | ' | <u>'</u> | | |
| Migrant | 201 | 62% | 0.62 | 8% | 18% | 62% | 11% | |
| | , | | | | ' | • | | |
| English Learner | 3,386 | 60% | 0.60 | 9% | 16% | 60% | 14% | |
| | - | | • | | • | | | |
| Economically Disadvantaged | 23,803 | 61% | 0.61 | 10% | 16% | 61% | 14% | |
| | - | | • | | • | | | |
| Students with Disabilities | 6,921 | 53% | 0.53 | 12% | 18% | 53% | 17% | |

^{*} Calculator section



4

MA0320060_4

Which fraction can fill in the box to make the comparison true?

$$\frac{2}{6}$$
 > \square

- **A** $\frac{2}{4}$
- **B** $\frac{2}{2}$
- **c** $\frac{2}{3}$
- **D** $\frac{2}{8}$



Kentucky Summative Assessments

Spring 2023 Grade 3 Mathematics

Item: MA0320060

Book Question Number: 4

Standard: KY.3.NF.3.d

Item Type: MC

Key: D

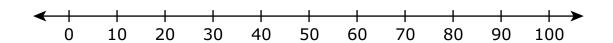
| | Number of | Percent | Average | Item Break | out Statistics | - Answer Cho | ice Options |
|-------------------------------------|-----------|---------|------------|------------|----------------|--------------|-------------|
| Student Group | Students | Correct | Item Score | A (%) | B (%) | C (%) | D (%) |
| All Students | 37,882 | 54% | 0.54 | 18% | 12% | 16% | 54% |
| Gender | | | | | | | |
| Female | 18,491 | 52% | 0.52 | 18% | 13% | 17% | 52% |
| Male | 19,389 | 56% | 0.56 | 18% | 10% | 16% | 56% |
| Ethnicity | | | | | | | |
| African American | 3,982 | 41% | 0.41 | 25% | 15% | 18% | 41% |
| American Indian or Alaska Native | 69 | 59% | 0.59 | 19% | 10% | 12% | 59% |
| Asian | 823 | 63% | 0.63 | 14% | 11% | 11% | 63% |
| Hispanic or Latino | 3,343 | 48% | 0.48 | 20% | 14% | 18% | 48% |
| Native Hawaiian or Pacific Islander | 68 | 53% | 0.53 | 22% | 7% | 18% | 53% |
| White (non-Hispanic) | 27,426 | 56% | 0.56 | 17% | 11% | 16% | 56% |
| Two or more races | 2,168 | 52% | 0.52 | 18% | 12% | 17% | 52% |
| | | | | | | | |
| Migrant | 201 | 44% | 0.44 | 18% | 20% | 17% | 44% |
| | | | | | | | |
| English Learner | 3,386 | 45% | 0.45 | 20% | 15% | 19% | 45% |
| | | | | | | | |
| Economically Disadvantaged | 23,808 | 49% | 0.49 | 20% | 14% | 18% | 49% |
| | | | | | | | |
| Students with Disabilities | 6,921 | 45% | 0.45 | 22% | 16% | 17% | 45% |



5

MA0320038

A number line is shown.



- Which value on the number line represents 87 rounded to the nearest 10?
- Explain how you used the number line to get your answer.

Enter your answer and your explanation in the space provided.



Kentucky Summative Assessments

Spring 2023 Grade 3 Mathematics

Item: MA0320038

Book Question Number: 5

Standard: KY.3.NBT.1

Item Type: SA Key: Rubric

| | Number of | Percent | Average Item Score | Item Breakout Statistics - Score Percentages | | | | |
|-------------------------------------|-----------|---------|-----------------------|--|-------------|-------------|--|--|
| Student Group | Students | Correct | | Score 0 (%) | Score 1 (%) | Score 2 (%) | | |
| All Students | 24,053 | 55.2% | 1.10 | 28% | 33% | 39% | | |
| Gender | | | | | | | | |
| Female | 11,765 | 54.4% | 1.09 | 31% | 29% | 40% | | |
| Male | 12,287 | 55.9% | 1.12 | 26% | 37% | 38% | | |
| Ethnicity | | | | | | | | |
| African American | 2,529 | 37.0% | 0.74 | 48% | 30% | 22% | | |
| American Indian or Alaska Native | 42 | 35.7% | 0.71 | 48% | 33% | 19% | | |
| Asian | 548 | 66.5% | 1.33 | 21% | 25% | 54% | | |
| Hispanic or Latino | 2,228 | 45.5% | 0.91 | 38% | 32% | 29% | | |
| Native Hawaiian or Pacific Islander | 43 | 60.5% | 1.21 | 23% | 33% | 44% | | |
| White (non-Hispanic) | 17,325 | 59.0% | 1.18 | 24% | 34% | 42% | | |
| Two or more races | 1,337 | 52.1% | 1.04 | 31% | 33% | 36% | | |
| | | | | | | | | |
| Migrant | 130 | 41.9% | 0.84 | 40% | 36% | 24% | | |
| | | | | | | | | |
| English Learner | 2,340 | 43.9% | 0.88 | 41% | 31% | 29% | | |
| | | | | | | | | |
| Economically Disadvantaged | 15,113 | 48.6% | 0.97 | 35% | 34% | 32% | | |
| | | | | | | | | |
| Students with Disabilities | 4,709 | 40.6% | 0.81 | 44% | 32% | 25% | | |

| | Rubric |
|--------------------|--|
| Score Point 2 | Student demonstrates a complete understanding of using place value understanding to round a whole number to the nearest ten. |
| Score Point 1 | Student demonstrates a partial understanding of using place value understanding to round a whole number to the nearest ten. |
| Score Point 0 | Student response is insufficient to demonstrate a grade-appropriate, relevant understanding of the task. |
| Score Points | Score 2 points: Correctly identified the rounded value and complete explanation. Score 1 point: Correct answer with incomplete or no explanation given. OR Incorrect but reasonable answer with an explanation provided that demonstrates a partial understanding of the task. |
| Correct Answers | The number 87 rounds up to 90 because 87 is closer to 90 than 80 on the number line. |

Anchor Set

A₁

It is bewtween 70 and 80 and it rounds to 80.

Anchor Annotation, Paper 1 Score Point 0

This response receives no credit. It includes none of the required elements.

The response does not correctly identify the rounded value and the explanation provided is incorrect.

 $\mathbf{A2}$

I looked at a little bit passed the middle of 80 and thats how I know that the 87 is there.

Anchor Annotation, Paper 2 Score Point 0

This response receives no credit. It includes none of the required elements.

The response does not correctly identify the rounded value and the explanation provided is irrelevant to the task.

 $\mathbf{A3}$

i know how to round to the nearest ten and i rounded 77 to 87 then i came up with so 77 is the answer.

Anchor Annotation, Paper 3 Score Point 0

This response receives no credit. It includes none of the required elements.

The response does not correctly identify the rounded value and the explanation provided is incorrect.

90 is the riet anser because 87,89,90

Anchor Annotation, Paper 4 Score Point 1

This response receives partial credit. It includes one of the two required elements.

• The response correctly identifies the rounded value (90).

An insufficient explanation is given (87,89,90).

A5

90

and how i got that anser is i added one more ten to get my answer that i have.

Anchor Annotation, Paper 5 Score Point 1

This response receives partial credit. It includes one of the two required elements.

• The response correctly identifies the rounded value (90).

The explanation provided is incorrect. As written, adding one more ten would result in a sum of 97.

 $\mathbf{A6}$

90

Anchor Annotation, Paper 6 Score Point 1

This response receives partial credit. It includes one of the two required elements.

• The response correctly identifies the rounded value (90).

An explanation is not provided.

its closer to 90 its only 3 numbers away from 90 you know that 5 or more is the next number like here 87 rounded to the nearest 10 is 90 because its only 3 numbers away from 90

Anchor Annotation, Paper 7 Score Point 2

This response receives full credit. It includes the two required elements.

- The response correctly identifies the rounded value (90).
- A complete explanation is provided (its only 3 numbers away from 90; 5 or more is the next number like here 87 rounded to the nearest 10 is 90).

A8

90 represents 87 rounded to the nerest 10 because 87 is closer to 90 than 80

Anchor Annotation, Paper 8 Score Point 2

This response receives full credit. It includes the two required elements.

- The response correctly identifies the rounded value (90).
- A complete explanation is provided (87 is closer to 90 than 80).

A9

I got 90 because I know that if it is less than 4 it rounds down and greater than 5 it rounds up.

Anchor Annotation, Paper 9 Score Point 2

This response receives full credit. It includes the two required elements.

- The response correctly identifies the rounded value (90).
- A complete explanation is provided (less than 4 it rounds down and greater than 5 it rounds up). Providing an applicable rounding rule is acceptable to explain why 87 is rounded to 90.



6 - M

MA0320034_3

Which strategy can be used to find the value of 4×70 ?

- A 11×10
- **B** 11 + 10
- \mathbf{C} 28 × 10
- **D** 28 + 10



Kentucky Summative Assessments

Spring 2023 Grade 3 Mathematics

Item: MA0320034

Book Question Number: 6

Standard: KY.3.NBT.3

Item Type: MC

Key: C

| | Number of | Percent | Average | Item Breakout Statistics - Answer Choice Options | | | | |
|-------------------------------------|-----------|---------|------------|--|-------|-------|-------|--|
| Student Group | Students | Correct | Item Score | A (%) | B (%) | C (%) | D (%) | |
| All Students | 24,344 | 64% | 0.64 | 24% | 6% | 64% | 6% | |
| Gender | | | | | | | | |
| Female | 11,873 | 60% | 0.60 | 26% | 7% | 60% | 7% | |
| Male | 12,470 | 68% | 0.68 | 22% | 5% | 68% | 5% | |
| Ethnicity | | | | | | | | |
| African American | 2,579 | 53% | 0.53 | 30% | 9% | 53% | 7% | |
| American Indian or Alaska Native | 43 | 58% | 0.58 | 30% | 9% | 58% | 2% | |
| Asian | 548 | 76% | 0.76 | 17% | 3% | 76% | 3% | |
| Hispanic or Latino | 2,266 | 56% | 0.56 | 27% | 8% | 56% | 8% | |
| Native Hawaiian or Pacific Islander | 43 | 60% | 0.60 | 28% | 5% | 60% | 7% | |
| White (non-Hispanic) | 17,510 | 67% | 0.67 | 23% | 5% | 67% | 5% | |
| Two or more races | 1,354 | 61% | 0.61 | 27% | 6% | 61% | 6% | |
| | | | | | | | | |
| Migrant | 133 | 61% | 0.61 | 23% | 11% | 61% | 5% | |
| | | | | | | | | |
| English Learner | 2,372 | 57% | 0.57 | 27% | 8% | 57% | 9% | |
| | | | | | | | | |
| Economically Disadvantaged | 15,336 | 60% | 0.60 | 27% | 7% | 60% | 7% | |
| | | | | | | | | |
| Students with Disabilities | 4,808 | 55% | 0.55 | 26% | 9% | 55% | 9% | |



Mathematics

7

MA0320001_3

Which set of stars can be used to represent the expression 5×6 ?

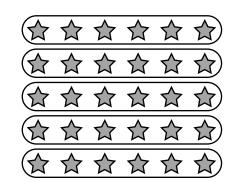
Α



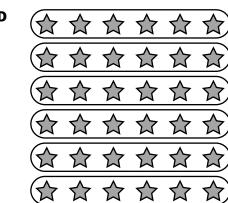
В



C



D





Kentucky Summative Assessments

Spring 2023 Grade 3 Mathematics

Item: MA0320001

Book Question Number: 7

Standard: KY.3.OA.1

Item Type: MC

Key: C

| | Number of | Percent | Average Item Score | Item Break | out Statistics | - Answer Cho | ice Options |
|-------------------------------------|-----------|---------|-----------------------|------------|----------------|--------------|-------------|
| Student Group | Students | Correct | | A (%) | B (%) | C (%) | D (%) |
| All Students | 46,585 | 78% | 0.78 | 9% | 4% | 78% | 9% |
| Gender | | | 1 | | <u> </u> | <u> </u> | <u>'</u> |
| Female | 22,733 | 80% | 0.80 | 9% | 4% | 80% | 7% |
| Male | 23,850 | 76% | 0.76 | 8% | 5% | 76% | 10% |
| Ethnicity | | | | | | | |
| African American | 4,919 | 67% | 0.67 | 14% | 7% | 67% | 12% |
| American Indian or Alaska Native | 78 | 74% | 0.74 | 9% | 3% | 74% | 14% |
| Asian | 977 | 87% | 0.87 | 4% | 3% | 87% | 6% |
| Hispanic or Latino | 4,036 | 75% | 0.75 | 10% | 4% | 75% | 10% |
| Native Hawaiian or Pacific Islander | 86 | 80% | 0.80 | 6% | 7% | 80% | 7% |
| White (non-Hispanic) | 33,880 | 80% | 0.80 | 8% | 4% | 80% | 8% |
| Two or more races | 2,605 | 76% | 0.76 | 9% | 5% | 76% | 10% |
| | | | | | | | |
| Migrant | 239 | 69% | 0.69 | 13% | 4% | 69% | 13% |
| | | | | | | | |
| English Learner | 4,007 | 74% | 0.74 | 10% | 5% | 74% | 10% |
| | | | | | | | |
| Economically Disadvantaged | 29,186 | 74% | 0.74 | 10% | 5% | 74% | 10% |
| | | | | | | | |
| Students with Disabilities | 8,288 | 63% | 0.63 | 14% | 8% | 63% | 15% |



MA0320006_3

Which number can go in the box to make the equation $6 \times \square = 48$ true?

- **A** 6
- **B** 7
- **C** 8
- **D** 9



Kentucky Summative Assessments

Spring 2023 Grade 3 Mathematics

Item: MA0320006

Book Question Number: 8

Standard: KY.3.OA.4

Item Type: MC

Key: C

| | Number of | Percent | Average Item Score | Item Breakout Statistics - Answer Choice Options | | | | |
|-------------------------------------|-----------|---------|-----------------------|--|-------|-------|----------|--|
| Student Group | Students | Correct | | A (%) | B (%) | C (%) | D (%) | |
| All Students | 46,564 | 72% | 0.72 | 7% | 14% | 72% | 6% | |
| Gender | | | 1 | | | | <u>'</u> | |
| Female | 22,719 | 72% | 0.72 | 7% | 14% | 72% | 7% | |
| Male | 23,843 | 73% | 0.73 | 7% | 14% | 73% | 6% | |
| Ethnicity | | | | | | | | |
| African American | 4,914 | 61% | 0.61 | 9% | 18% | 61% | 12% | |
| American Indian or Alaska Native | 78 | 72% | 0.72 | 5% | 19% | 72% | 4% | |
| Asian | 977 | 85% | 0.85 | 3% | 9% | 85% | 3% | |
| Hispanic or Latino | 4,034 | 67% | 0.67 | 8% | 16% | 67% | 9% | |
| Native Hawaiian or Pacific Islander | 86 | 81% | 0.81 | 3% | 10% | 81% | 5% | |
| White (non-Hispanic) | 33,866 | 74% | 0.74 | 7% | 13% | 74% | 5% | |
| Two or more races | 2,605 | 70% | 0.70 | 8% | 15% | 70% | 8% | |
| | | | | | | | | |
| Migrant | 238 | 63% | 0.63 | 9% | 18% | 63% | 9% | |
| | | | | | | | | |
| English Learner | 4,005 | 67% | 0.67 | 8% | 16% | 67% | 9% | |
| | | | | | | | | |
| Economically Disadvantaged | 29,171 | 68% | 0.68 | 8% | 16% | 68% | 8% | |
| | | | | | | | | |
| Students with Disabilities | 8,283 | 62% | 0.62 | 10% | 16% | 62% | 11% | |



Investing in Kentucky's Future, One Student at a Time