

Kentucky Summative Assessments



Grade 4 Mathematics **Released Items** 2023

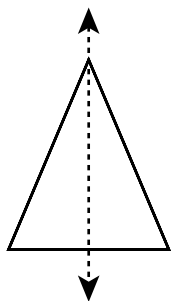


1

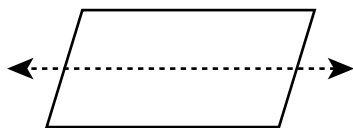
MA0420090_1

Which shape has a line of symmetry correctly shown by a dashed line?

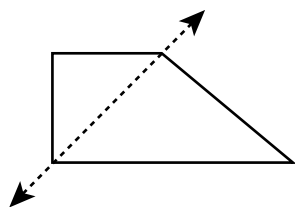
A



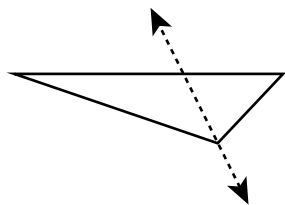
B



C



D





Released Item Performance

Kentucky Summative Assessments

Spring 2023
Grade 4
Mathematics

Item: MA0420090*

Book Question Number: 1

Standard: KY.4.G.3.a

Item Type: MC

Key: A

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	22,197	76%	0.76	76%	20%	3%	1%
Gender							
Female	10,867	75%	0.75	75%	20%	3%	1%
Male	11,328	77%	0.77	77%	19%	3%	1%
Ethnicity							
African American	2,316	63%	0.63	63%	29%	6%	3%
American Indian or Alaska Native	26	77%	0.77	77%	15%	8%	0%
Asian	487	87%	0.87	87%	11%	1%	1%
Hispanic or Latino	1,757	74%	0.74	74%	21%	3%	1%
Native Hawaiian or Pacific Islander	43	84%	0.84	84%	14%	0%	2%
White (non-Hispanic)	16,345	78%	0.78	78%	18%	3%	1%
Two or more races	1,221	74%	0.74	74%	20%	5%	1%
Migrant							
Migrant	93	69%	0.69	69%	28%	3%	0%
English Learner							
English Learner	1,489	70%	0.70	70%	25%	4%	2%
Economically Disadvantaged							
Economically Disadvantaged	13,616	73%	0.73	73%	22%	4%	2%
Students with Disabilities							
Students with Disabilities	3,143	69%	0.69	69%	24%	5%	2%

* Calculator section

**2**

MA0420190_3,5

Mr. Abbott creates a dot plot about math tests given to the fourth-grade classes. Which questions would be best to use to create a dot plot?

Select **two** correct answers.

- A** What grade did Cal get on the test?
- B** Who had the highest grade on the test?
- C** How many students take the test in each class?
- D** How many hours did MaryJo study for the test?
- E** How long did it take each student to finish the test?



Released Item Performance

Kentucky Summative Assessments

Spring 2023
Grade 4
Mathematics

Item: MA0420190

Book Question Number: 2

Standard: KY.4.MD.4.a

Item Type: MS

Key: C,E

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Score Percentages		
				Score 0 (%)	Score 1 (%)	Score 2 (%)
All Students	24,545	56.4%	1.13	15%	57%	28%
Gender						
Female	11,886	57.2%	1.14	14%	57%	29%
Male	12,658	55.7%	1.11	16%	57%	27%
Ethnicity						
African American	2,611	51.9%	1.04	20%	56%	24%
American Indian or Alaska Native	30	58.3%	1.17	13%	57%	30%
Asian	528	59.3%	1.19	14%	53%	33%
Hispanic or Latino	2,251	53.2%	1.06	18%	58%	24%
Native Hawaiian or Pacific Islander	51	64.7%	1.29	12%	47%	41%
White (non-Hispanic)	17,724	57.4%	1.15	14%	58%	29%
Two or more races	1,349	56.4%	1.13	15%	58%	27%
Migrant						
Migrant	134	53.7%	1.07	21%	51%	28%
English Learner						
English Learner	2,200	52.5%	1.05	18%	58%	23%
Economically Disadvantaged						
Economically Disadvantaged	15,266	54.4%	1.09	17%	58%	26%
Students with Disabilities						
Students with Disabilities	4,588	52.9%	1.06	19%	56%	25%



3

MA0420155

Complete each comparison to make it true.

Move a fraction into each box.

$$\frac{10}{12}$$

$$\frac{6}{8}$$

$$\frac{1}{2}$$

$$\frac{3}{4} < \boxed{}$$

$$\frac{3}{4} > \boxed{}$$

$$\frac{3}{4} = \boxed{}$$



Released Item Performance

Kentucky Summative Assessments

Spring 2023
Grade 4
Mathematics

Item: MA0420155

Book Question Number: 3

Standard: KY.4.NF.2

Item Type: TE

Key: see below

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Score Percentages	
				Score 0 (%)	Score 1 (%)
All Students	22,174	57.9%	0.58	42%	58%
Gender					
Female	10,848	57.7%	0.58	42%	58%
Male	11,324	58.2%	0.58	42%	58%
Ethnicity					
African American	2,341	44.6%	0.45	55%	45%
American Indian or Alaska Native	27	40.7%	0.41	59%	41%
Asian	455	73.0%	0.73	27%	73%
Hispanic or Latino	1,778	52.6%	0.53	47%	53%
Native Hawaiian or Pacific Islander	33	66.7%	0.67	33%	67%
White (non-Hispanic)	16,334	60.3%	0.60	40%	60%
Two or more races	1,204	54.6%	0.55	45%	55%
Migrant					
Migrant	99	50.5%	0.51	49%	51%
English Learner					
English Learner	1,468	49.0%	0.49	51%	49%
Economically Disadvantaged					
Economically Disadvantaged	13,606	53.0%	0.53	47%	53%
Students with Disabilities					
Students with Disabilities	3,089	46.5%	0.46	54%	46%

Key: Gap 1 should contain 10/12. Gap 2 should contain 1/2. Gap 3 should contain 6/8.

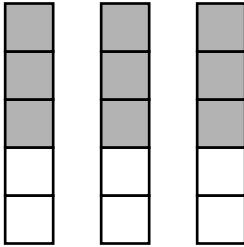


4

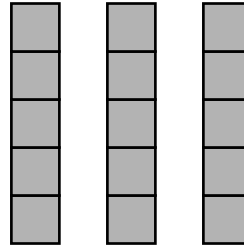
MA0420144_3

Which set of fraction models is shaded to represent the value of $\frac{5}{3}$?

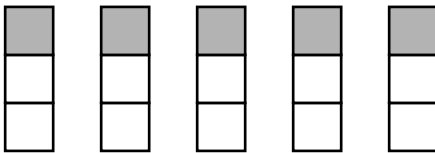
A



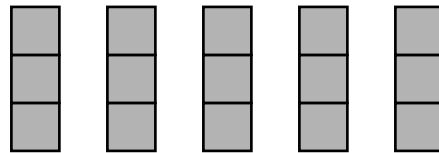
B



C



D





Released Item Performance

Kentucky Summative Assessments

Spring 2023
Grade 4
Mathematics

Item: MA0420144

Book Question Number: 4

Standard: KY.4.NF.4.a

Item Type: MC

Key: C

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	46,907	39%	0.39	20%	20%	39%	21%
Gender							
Female	22,843	35%	0.35	21%	21%	35%	22%
Male	24,061	42%	0.42	20%	18%	42%	20%
Ethnicity							
African American	4,962	28%	0.28	28%	23%	28%	21%
American Indian or Alaska Native	57	32%	0.32	30%	19%	32%	19%
Asian	1,017	53%	0.53	15%	16%	53%	17%
Hispanic or Latino	4,022	33%	0.33	26%	23%	33%	18%
Native Hawaiian or Pacific Islander	94	40%	0.40	21%	21%	40%	17%
White (non-Hispanic)	34,171	41%	0.41	18%	19%	41%	21%
Two or more races	2,581	35%	0.35	23%	20%	35%	22%
Migrant							
Migrant	228	33%	0.33	29%	20%	33%	18%
English Learner							
English Learner	3,707	31%	0.31	29%	22%	31%	17%
Economically Disadvantaged							
Economically Disadvantaged	29,000	34%	0.34	23%	21%	34%	21%
Students with Disabilities							
Students with Disabilities	7,776	28%	0.28	29%	21%	28%	22%



5

MA0420029_422580

What is the sum of 390,198 and 32,382?

Enter your answer in the box.



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Spring 2023

Grade 4

Mathematics

Item: MA0420029

Book Question Number: 5

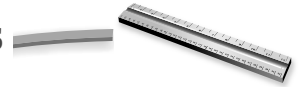
Standard: KY.4.NBT.4

Item Type: TE

Key: see below

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Score Percentages	
				Score 0 (%)	Score 1 (%)
All Students	31,166	54.2%	0.54	46%	54%
Gender					
Female	15,238	54.6%	0.55	45%	55%
Male	15,926	53.8%	0.54	46%	54%
Ethnicity					
African American	3,267	37.9%	0.38	62%	38%
American Indian or Alaska Native	37	56.8%	0.57	43%	57%
Asian	660	70.0%	0.70	30%	70%
Hispanic or Latino	2,485	50.2%	0.50	50%	50%
Native Hawaiian or Pacific Islander	59	40.7%	0.41	59%	41%
White (non-Hispanic)	22,954	56.9%	0.57	43%	57%
Two or more races	1,702	49.1%	0.49	51%	49%
Migrant					
Migrant	135	51.1%	0.51	49%	51%
English Learner					
English Learner	2,060	47.4%	0.47	53%	47%
Economically Disadvantaged					
Economically Disadvantaged	19,061	49.2%	0.49	51%	49%
Students with Disabilities					
Students with Disabilities	4,393	45.6%	0.46	54%	46%

Key: In Blank 1, the numeric response must be equal in value to 422580. Leading/trailing zeroes and unnecessary decimal points are ignored. Commas, if used, must be correctly placed. Answers using / to represent a fraction are not considered correct.



6

MA0420131_1

The expanded form of a number is shown.

$$3 \times 10,000 + 7 \times 1,000 + 5 \times 10 + 7 \times 1$$

What is the number name of the given number?

- A** Thirty-seven thousand fifty-seven
- B** Thirty thousand five hundred seven
- C** Thirty thousand seven hundred fifty-seven
- D** Thirty-seven thousand five hundred seventy



Released Item Performance

Kentucky Summative Assessments

Spring 2023
Grade 4
Mathematics

Item: MA0420131

Book Question Number: 6

Standard: KY.4.NBT.2.a

Item Type: MC

Key: A

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	46,900	63%	0.63	63%	7%	18%	12%
Gender							
Female	22,841	59%	0.59	59%	8%	20%	13%
Male	24,056	67%	0.67	67%	7%	15%	10%
Ethnicity							
African American	4,962	47%	0.47	47%	11%	25%	16%
American Indian or Alaska Native	57	47%	0.47	47%	16%	21%	16%
Asian	1,016	76%	0.76	76%	3%	13%	8%
Hispanic or Latino	4,020	54%	0.54	54%	9%	23%	15%
Native Hawaiian or Pacific Islander	94	62%	0.62	62%	6%	16%	16%
White (non-Hispanic)	34,168	67%	0.67	67%	7%	16%	11%
Two or more races	2,580	60%	0.60	60%	7%	20%	13%
Migrant							
Migrant	228	45%	0.45	45%	7%	27%	20%
English Learner							
English Learner	3,706	48%	0.48	48%	10%	25%	17%
Economically Disadvantaged							
Economically Disadvantaged	28,993	58%	0.58	58%	9%	20%	14%
Students with Disabilities							
Students with Disabilities	7,770	47%	0.47	47%	12%	23%	17%



7

MA0420094_2

To solve a problem, a student writes the equation shown.

$$12 \times 3 = ?$$

Which question can be solved using the student's equation?

- A** A basket has 12 apples in it. The number of oranges in the basket is 3 more than the number of apples. How many oranges are in the basket?
- B** A bag has 12 red marbles in it. The number of green marbles in the bag is 3 times as many as the red marbles. How many green marbles are in the bag?
- C** There are 12 shirts in a closet. The number of belts in the closet is 3 less than the number of shirts. How many belts are in the closet?
- D** There are 12 candies. The candies are divided equally among 3 friends. How many candies will each friend get?



Released Item Performance

Kentucky Summative Assessments

Spring 2023
Grade 4
Mathematics

Item: MA0420094*

Book Question Number: 7

Standard: KY.4.OA.1

Item Type: MC

Key: B

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	37,867	72%	0.72	17%	72%	5%	6%
Gender							
Female	18,443	70%	0.70	17%	70%	5%	7%
Male	19,421	73%	0.73	17%	73%	5%	6%
Ethnicity							
African American	4,001	63%	0.63	22%	63%	7%	8%
American Indian or Alaska Native	46	63%	0.63	24%	63%	9%	4%
Asian	842	85%	0.85	8%	85%	2%	5%
Hispanic or Latino	3,293	66%	0.66	19%	66%	7%	9%
Native Hawaiian or Pacific Islander	78	63%	0.63	19%	63%	6%	12%
White (non-Hispanic)	27,510	73%	0.73	16%	73%	4%	6%
Two or more races	2,094	71%	0.71	17%	71%	5%	7%
Migrant							
Migrant	186	64%	0.64	20%	64%	8%	8%
English Learner							
English Learner	3,132	63%	0.63	19%	63%	8%	10%
Economically Disadvantaged							
Economically Disadvantaged	23,501	67%	0.67	19%	67%	6%	8%
Students with Disabilities							
Students with Disabilities	6,508	55%	0.55	22%	55%	9%	14%

* Calculator section



8

MA0420012_4

A pattern starts with 100. The rule is “Subtract 7.” Which statement about the pattern is true?

- A** Every term is odd.
- B** Every term is even.
- C** The terms are all multiples of 7.
- D** The terms alternate between odd and even.



Released Item Performance

Kentucky Summative Assessments

Spring 2023
Grade 4
Mathematics

Item: MA0420012

Book Question Number: 8

Standard: KY.4.OA.5

Item Type: MC

Key: D

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	37,867	57%	0.57	19%	7%	17%	57%
Gender							
Female	18,445	56%	0.56	20%	7%	18%	56%
Male	19,419	58%	0.58	19%	7%	16%	58%
Ethnicity							
African American	3,997	42%	0.42	24%	11%	23%	42%
American Indian or Alaska Native	46	54%	0.54	15%	9%	22%	54%
Asian	843	71%	0.71	14%	4%	11%	71%
Hispanic or Latino	3,295	49%	0.49	21%	10%	20%	49%
Native Hawaiian or Pacific Islander	78	49%	0.49	19%	8%	24%	49%
White (non-Hispanic)	27,509	60%	0.60	18%	6%	16%	60%
Two or more races	2,096	54%	0.54	22%	7%	17%	54%
Migrant							
Migrant	186	48%	0.48	21%	9%	22%	48%
English Learner							
English Learner	3,133	46%	0.46	21%	11%	23%	46%
Economically Disadvantaged							
Economically Disadvantaged	23,498	52%	0.52	21%	8%	19%	52%
Students with Disabilities							
Students with Disabilities	6,505	49%	0.49	19%	11%	22%	49%



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