

Grade 4 Mathematics Practice Test
Scoring Guide (computer-based form)

Session	Sequence	Item Type	Key	Assessable Content
1	1	MC	B	4.NF.B.4b Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. <i>For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)</i>
1	2	SA	7	4.OA.A.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
1	3	MS	C, E	4.NF.A.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.
1	4	MS	E, F	4.NBT.A.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. <i>For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.</i>
1	5	TE	see TE* item image at end of scoring guide	4.NF.A.1 Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
1	6	SA	6087	4.NBT.A.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
1	7	MS	B, D, E	4.G.A.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
1	8	MC	D	4.NF.C.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. <i>For example, express $3/10$ as $30/100$, and add $3/10 + 4/100 = 34/100$.</i>
1	9	SA	12	4.MD.A.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. <i>For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.</i>

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1	10	MS	B, E	4.OA.A.1 Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
1	11	Part A: MC Part B: MC	Part A: C Part B: C	4.NF.A Extend understanding of fraction equivalence and ordering.
1	12	CR	See rubric	Distinguish correct explanation/reasoning from that which is flawed, and - if there is a flaw in the argument - present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it. 3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units. 3.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units). 3.MD.C.7 Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. 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. 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.
1	13	MC	C	4.MD.C.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

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1	14	Part A: SA Part B: CR	Part A: 77 Part B: see rubric	Solve multi-step contextual word problems with degree of difficulty appropriate to Grade 4, requiring application of knowledge and skills articulated in Sub-claim A. 4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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. 4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.
2	15	MC	D	4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
2	16	SA	3	4.OA.A.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
2	17	TE	see TE* item image at end of scoring guide	4.NF.C.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model.
2	18	MC	B	4.NBT.A.3 Use place value understanding to round multi-digit whole numbers to any place.
2	19	MS	B, E	4.NF.A.1 Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
2	20	MS	A, E	4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
2	21	SA	4	4.NF.B.4a Understand a fraction a/b as a multiple of $1/b$. <i>For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.</i>

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Session	Sequence	Item Type	Key	Assessable Content
2	22	Part A: SA Part B: SA	Part A: 11393 Part B: 1649	4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm. 4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.
2	23	MS	B, D, E	4.OA.B.4 Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.
2	24	TE	see TE* item image at end of scoring guide	4.NF.B.3a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
2	25	SA	1967	4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.
2	26	CR	See rubric	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response) 4.NF.B.4a Understand a fraction a/b as a multiple of $1/b$. <i>For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.</i> 4.NF.B.4b Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. <i>For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)</i>
2	27	Part A: MC Part B: SA	Part A: D Part B: 29	4.MD.C.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

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2	28	CR	See rubric	<p>Solve multi-step contextual word problems with degree of difficulty appropriate to Grade 4, requiring application of knowledge and skills articulated in Sub-claim A.</p> <p>4.OA.A.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.</p> <p>4.NF.B.4c Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. <i>For example, if each person at a party will eat $\frac{3}{8}$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</i></p>
3	29	MC	C	<p>4.MD.C.5a An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a "one-degree angle," and can be used to measure angles.</p>
3	30	SA	2741	<p>4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.</p> <p>4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p>
3	31	MS	C, E	<p>4.NF.B.3b Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. <i>Examples: $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$; $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$; $2\frac{1}{8} = 1 + 1 + \frac{1}{8} = \frac{8}{8} + \frac{8}{8} + \frac{1}{8}$.</i></p>

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3	32	SA	1320	<p>4.NBT.B.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p> <p>4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.</p>
3	33	SA	48	<p>4.MD.A.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb., oz.; l, ml; hr., min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. <i>For example, know that 1 ft. is 12 times as long as 1 in. Express the length of a 4 ft. snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...</i></p>
3	34	SA	2	<p>4.NF.A.1 Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.</p>
3	35	TE	see TE* item image at end of scoring guide	<p>4.NF.C.6 Use decimal notation for fractions with denominators 10 or 100. <i>For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram .</i></p>
3	36	MC	D	<p>4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p>
3	37	MC	C	<p>4.NF.C.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. <i>For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.</i></p>
3	38	MS	A, B, D	<p>4.OA.B.4 Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.</p>

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Session	Sequence	Item Type	Key	Assessable Content
3	39	SA	388	4.NBT.B.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
3	40	CR	See rubric	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as $1 + 4 = 5 + 7 = 12$, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. 4.NF.B.3c Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
3	41	Part A: MC Part B: MC	Part A: D Part B: B	4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.
3	42	Part A: SA Parts B & C: CR	Part A: 20 Parts B & C: see rubric	Solve multi-step contextual problems with degree of difficulty appropriate to Grade 4, requiring application of knowledge and skills articulated in 3.OA.A, 3.OA.8, 3.NBT, and/or 3.MD. 3.MD.B.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.

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#12 Part A	
Score	Description
3	<p>Student response includes the following 3 elements.</p> <ul style="list-style-type: none"> • Reasoning component = 3 points <ul style="list-style-type: none"> ○ Identifies error of overlapping tiles on corners ○ Identifies error of not completely covering the rectangle with tiles ○ Explains a way to correctly cover the rectangle and determines the area of the rectangle is 21 square inches <p>Sample Student Response: One error the student made was she covered each corner of the rectangle twice. Another error she made was she didn't completely cover the entire rectangle.</p> <p>To correctly determine the area, you should cover the entire rectangle with squares without overlapping. If I do this, I would cover the top and bottom edges with 7 tiles each, then I could add another 7 tiles to cover the middle section of the rectangle. In all, I used 21 tiles to cover the entire rectangle with no overlaps. This means that the area of the rectangle is 21 square inches. $7 + 7 + 7 = 21$ (or other valid explanation)</p> <p>Notes:</p> <ul style="list-style-type: none"> • If the error made is shown or stated as the perimeter is being found, not area, a point can be given for either the first or second element, but not a point for each. • Work that correctly shows the area of the rectangle addresses the requirement to explain the way to cover the rectangle.
2	Student response includes 2 of the 3 elements.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

#12 Part B	
Score	Description
1	<p>Student response includes the following element.</p> <ul style="list-style-type: none"> • Computation component = 1 point <ul style="list-style-type: none"> ○ Valid multiplication sentence that shows how to find the area of the rectangle shown. <p>Sample Student Response: $7 \times 3 = 21$</p>
0	Student response is incorrect or irrelevant.

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#14 Part B	
Score	Description
2	<p>Student response includes the following 2 elements.</p> <ul style="list-style-type: none">• Modeling component = 1 point<ul style="list-style-type: none">○ Valid work or explanation for how to find the total cost of the remaining boxes of clay• Computation component = 1 point<ul style="list-style-type: none">○ Correct cost, \$112 <p>Sample Student Response: $77 \div 10 = 7$, with a remainder of 7 so the teacher needs 8 boxes. $8 \times 14 = 112$ \$112 Or other valid explanation</p>
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

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#26	
Score	Description
3	<p>Student response includes the following 3 elements.</p> <ul style="list-style-type: none"> • Reasoning component = 2 points <ul style="list-style-type: none"> ○ Valid explanation of how to find $\frac{5}{12}$ using the number line ○ Valid explanation of how to find $2 \times \frac{5}{12}$ using the number line • Computation component = 1 point <ul style="list-style-type: none"> ○ Correct product, $\frac{10}{12}$ or equivalent <p>Sample Student Response:</p> <p>I know that each tick mark on this number line is equivalent to $\frac{1}{12}$, so to find $\frac{5}{12}$, I would count 5 of the tick marks.</p> <p>Then to find $2 \times \frac{5}{12}$, I would count $\frac{5}{12}$ two times starting at zero on the number line. I would land on $\frac{5}{6}$, which is the same as $\frac{10}{12}$. The product is $\frac{10}{12}$.</p> <p>(or equivalent)</p> <p>Note: Student responses must provide explanations to receive the reasoning component points. Simply identifying the locations of $\frac{5}{12}$ and $\frac{10}{12}$ is not sufficient for reasoning credit.</p>
2	Student response includes 2 of the 3 elements.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

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#28	
Score	Description
3	<p>Student response includes the following 3 elements.</p> <ul style="list-style-type: none"> • Computation component = 2 points <ul style="list-style-type: none"> ○ Correct amount of paint used for 1 shirt, $\frac{2}{3}$ ounce. ○ Correct amount of paint used for the poster and 2 shirts, $\frac{10}{3}$ ounces or equivalent. • Modeling component = 1 points <ul style="list-style-type: none"> ○ Valid work or explanation for both the amount of paint used for 1 shirt and for the amount of paint used for the poster and 2 shirts. <p>Sample Student Response:</p> <p>I found the number of tubes used for each shirt by figuring out what number times 3 is equal to 6. Since $3 \times \boxed{2} = 6$, I now know that for each shirt, 2 tubes are used. To find the number of ounces in 2 tubes, I solved $2 \times \frac{1}{3} = \frac{2}{3}$. To find the number of ounces used for 1 poster, I solved $6 \times \frac{1}{3} = \frac{6}{3}$. For the total number of ounces used for 1 poster and 2 shirts, I added $\frac{2}{3} + \frac{2}{3} + \frac{6}{3} = \frac{10}{3}$. So the total number of ounces used for the poster and 2 shirts is $\frac{10}{3}$.</p> <p>Notes:</p> <ul style="list-style-type: none"> • Student may earn the computation point for an incorrect amount of paint used for the poster and 2 shirts if it is based on an incorrect amount of paint used for 1 shirt with the correct work shown. • Student may earn the modeling point even if computation is incorrect as long as he or she they shows valid work or explanation.
2	Student response includes 2 of the 3 elements.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

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#40	
Score	Description
3	<p>Student response includes the following 3 elements.</p> <ul style="list-style-type: none"> • Reasoning component = 2 points <ul style="list-style-type: none"> ○ Valid explanation of errors in work shown ○ Correct work shown or valid explanation given for finding correct solution • Computation component = 1 point <ul style="list-style-type: none"> ○ Correct solution, $\frac{18}{4}$ (or equivalent) <p>Sample Student Response: The fractions are incorrectly added. The student should not add together the values in the denominator. The correct way to do this problem is:</p> $1\frac{3}{4} + 2\frac{3}{4} = \frac{4}{4} + \frac{3}{4} + \frac{8}{4} + \frac{3}{4}$ $= \frac{4+3+8+3}{4}$ $= \frac{18}{4}$ <p>Or equivalent appropriate work or explanation.</p>
2	Student response includes 2 of the 3 elements.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

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#42 Part B	
2	<p>Student response includes each of the following 2 elements:</p> <ul style="list-style-type: none">• Computation component: 5 students• Modeling component: Student explains how to use the bar graph to determine how many more students have 1 pet than 3 pets. <p>Sample Student Response:</p> <p style="padding-left: 40px;">I looked at the height of the bar to find the number of students with one pet and saw it was 35. Then I looked at the height of the bar to find the number of students with 3 pets and saw it was 30. I subtracted $35 - 30$ and got 5. So, there are 5 more students who have 1 pet than 3 pets.</p> <p>Note: A variety of explanations are valid, as long as it is clear that the student understands how to use the bar graph to answer the question.</p>
1	<p>Student response includes 1 of the 2 elements. If a computation mistake is made, credit cannot be given for the computation component, but 1 point can be given for stating a correct process in the explanation.</p>
0	<p>Student response is incorrect or irrelevant.</p>

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#42 Part C	
3	<p>Student response includes each of the following 3 elements:</p> <ul style="list-style-type: none"> • Computation component: 201 • Modeling component: Student explains how to use the bar graph to solve the problem. • Modeling component: Students shows work using equations. <p>Sample Student Response:</p> <p>I read the height of each bar to know how many students had 1 pet, 2 pets, 3 pets, or 4 pets. I determined how many pets each bar shows by multiplying the number of students by the number of pets for each bar. Adding the numbers of pets for all the bars gives the total.</p> <p style="margin-left: 40px;">35 students have 1 pet $1 \times 35 = 35$ pets 20 students have 2 pets $2 \times 20 = 40$ pets 30 students have 3 pets $3 \times 30 = 90$ pets 9 students have 4 pets $4 \times 9 = 36$ pets $35 + 40 + 90 + 36 = 201$ total pets</p> <p>Note: A variety of explanations are valid as long as it is clear that the student understands how to use the bar graph to answer the question and shows work using equations.</p>
2	Student response includes 2 of the 3 elements. If a computation mistake is made, credit cannot be given for the computation component, but points can be given for modeling.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

Technology Enhanced Item Images/Keys

#5

Before Response

Which fractions are equal to $\frac{2}{3}$?

Select the box to show if the given fraction is equal to $\frac{2}{3}$.

	Equal to $\frac{2}{3}$	Not Equal to $\frac{2}{3}$
$\frac{4}{6}$	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{7}{8}$	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{6}{10}$	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{4}{5}$	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{8}{12}$	<input type="checkbox"/>	<input type="checkbox"/>

Correct Response

Which fractions are equal to $\frac{2}{3}$?

Select the box to show if the given fraction is equal to $\frac{2}{3}$.

	Equal to $\frac{2}{3}$	Not Equal to $\frac{2}{3}$
$\frac{4}{6}$	<input checked="" type="checkbox"/>	<input type="checkbox"/>
$\frac{7}{8}$	<input type="checkbox"/>	<input checked="" type="checkbox"/>
$\frac{6}{10}$	<input type="checkbox"/>	<input checked="" type="checkbox"/>
$\frac{4}{5}$	<input type="checkbox"/>	<input checked="" type="checkbox"/>
$\frac{8}{12}$	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Technology Enhanced Item Images/Keys

#17

Before Response

Lisa completed six science experiments. Each experiment produced a different amount of salt. The weight, in ounces, of each amount of salt is listed below.

Salt M	0.99
Salt N	0.05
Salt O	0.60
Salt P	0.45
Salt Q	0.39
Salt R	0.06

Complete each comparison with the correct symbol.

Drag and drop the correct inequality symbol into each box.

?

>	0.99 <input type="text"/>	0.06
<	0.05 <input type="text"/>	0.39
=	0.60 <input type="text"/>	0.99
	0.45 <input type="text"/>	0.39
	0.06 <input type="text"/>	0.60

Correct Response

Lisa completed six science experiments. Each experiment produced a different amount of salt. The weight, in ounces, of each amount of salt is listed below.

Salt M	0.99
Salt N	0.05
Salt O	0.60
Salt P	0.45
Salt Q	0.39
Salt R	0.06

Complete each comparison with the correct symbol.

Drag and drop the correct inequality symbol into each box.

?

>	0.99 <input type="text" value=">"/>	0.06
<	0.05 <input type="text" value="<"/>	0.39
=	0.60 <input type="text" value="<"/>	0.99
	0.45 <input type="text" value=">"/>	0.39
	0.06 <input type="text" value="<"/>	0.60

Technology Enhanced Item Images/Keys

#24

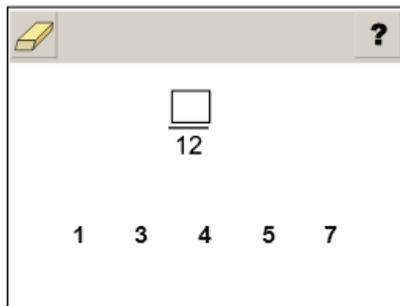
Before Response

Kelly and Louise share pens from a package. There are 12 pens in the package.

- Kelly gets $\frac{3}{12}$ of the pens.
- Louise gets $\frac{4}{12}$ of the pens.

What fraction of the pens are remaining in the package?

Drag and drop a numerator into the box to complete the fraction of the pens that are remaining in the package.



The image shows a digital interface for entering a fraction. At the top left is a yellow eraser icon, and at the top right is a question mark icon. In the center, there is a fraction template with a square box above the number 12. Below the fraction, the numbers 1, 3, 4, 5, and 7 are listed as options to be dragged into the numerator box.

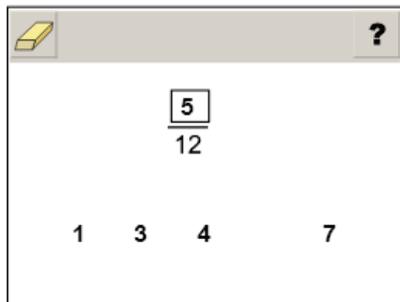
Correct Response

Kelly and Louise share pens from a package. There are 12 pens in the package.

- Kelly gets $\frac{3}{12}$ of the pens.
- Louise gets $\frac{4}{12}$ of the pens.

What fraction of the pens are remaining in the package?

Drag and drop a numerator into the box to complete the fraction of the pens that are remaining in the package.



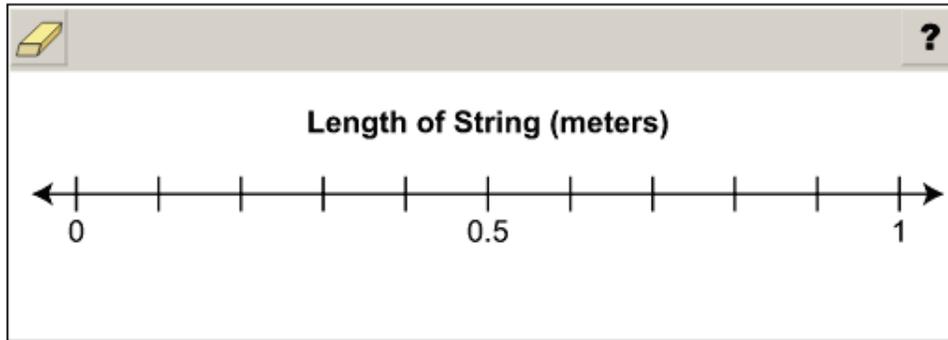
The image shows the same digital interface as above, but with the number 5 correctly placed in the numerator box of the fraction $\frac{5}{12}$. The numbers 1, 3, 4, and 7 remain as options below the fraction.

Technology Enhanced Item Images/Keys

#35

Before Response

A piece of string is $\frac{5}{100}$ meter long. Click on the number line to show the length of the string.



Correct Response

A piece of string is $\frac{5}{100}$ meter long. Click on the number line to show the length of the string.

