NEW MEXICO MEASURES OF STUDENT SUCCESS AND ACHIEVEMENT

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Mathematics

Grade 4 · Practice Test

Mathematics Session 1

1. There are 4 times as many fish as there are frogs in a pond. There are 32 fish.

Which statement is true?

A There are 8 frogs because $4 \times 8 = 32$.

B There are 28 frogs because $32 - 4 = 28$.

C There are 36 frogs because $4 + 32 = 36$.

D There are 128 frogs because $32 \times 4 = 128$.

2. The measure of $\angle P$ is 12°.
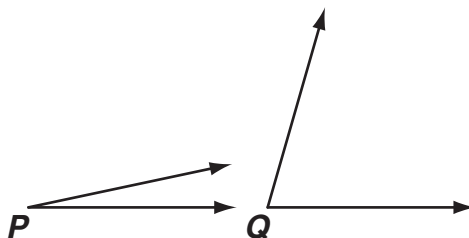
Which of these is the **best** estimate of the measure of $\angle Q$?

A 48°

B 60°

C 74°

D 106°

3.   Lisa read for $\frac{1}{4}$ of an hour.

Which equation can be used to find s, how many seconds Lisa read?

A $15 \times \frac{1}{4} = s$

B $60 \times \frac{1}{4} = s$

C $15 \times 4 = s$

D $60 \times 15 = s$

4.   Which number is a prime number **and** a factor of 56?

A   7

B   5

C   4

D   3

SESSION
1

5. Which fraction is equal to $\frac{9}{12}$?

A $\frac{3}{6}$

B $\frac{5}{8}$

C $\frac{2}{3}$

D $\frac{3}{4}$

6. This subtraction problem is missing a digit.

$$
\begin{array}{r}
8,\square31 \\
-3,841 \\
\hline
4,390
\end{array}
$$

Which digit belongs in the box to make the difference true?

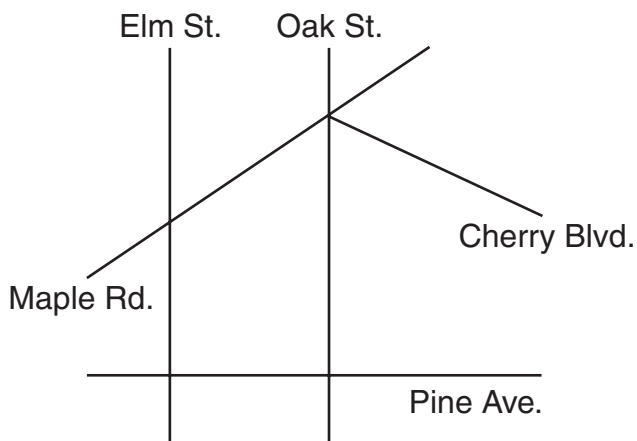**A** 1

B 2

C 4

D 5

SESSION
1

GO ON

This question has two parts. Be sure to answer all parts of the question.

7. Macy made this model to help show the quotient of 2,850 ÷ 6.

$$
\begin{array}{c c c c}
 & 400 & n & 5 \\
6 & \boxed{k} & \boxed{420} & \boxed{30}
\end{array}
$$

a. What is the value of *k* in the model?

b. What is the quotient of 2,850 ÷ 6? Explain how the model is used to find the answer.

8. A map with five roads is shown.

How many angles on the map appear to be acute angles?

A 3

B 4

C 6

D 8

9. Sofia is solving this word problem.

> Lincoln Elementary School has a mathematics club and a science club.
>
> - There are 30 students in the clubs total.
>
> - A student can only be in one club.
>
> - Twice as many students are in the mathematics club as are in the science club.
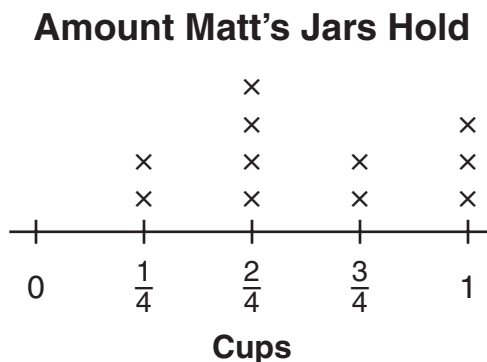>
> How many students are in the science club?

Which solution is correct?

A 10 because $30 - 20 = 10$

B 15 because $30 \div 2 = 15$

C 28 because $30 - 2 = 28$

D 60 because $30 \times 2 = 60$

Use the information below to answer questions 10 and 11.

This line plot shows the amount of water, in cups, that Matt's jars hold.

Amount Matt's Jars Hold

Cups

10. Which equation shows the total amount of water, in cups, that can be put in all the jars that hold exactly $\frac{1}{4}$ cup?

A $\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$

B $1 + 1 + 1 = 3$

C $\frac{3}{4} + \frac{3}{4} = \frac{6}{4} = 1\frac{2}{4}$

D $\frac{2}{4} + \frac{2}{4} + \frac{2}{4} + \frac{2}{4} = \frac{8}{4} = 2$

11. What is the difference between the amount of water the largest jars hold and the amount the smallest jars hold?

A $\frac{1}{4}$ cup

B $\frac{2}{4}$ cup

C $\frac{3}{4}$ cup

D 1 cup

12. Jack used base-ten blocks to represent a number.

He used:

- 5 ones

- 3 thousands

- 20 tens

What number did Jack show?

A 3,025

B 3,205

C 5,005

D 5,320

13. Gary claims that he has listed all of the factors of 28 and 66, as shown.

- factors of 28: 1, 2, 3, 4, 14, 28

- factors of 66: 1, 2, 3, 4, 11, 22, 66

Which of the following describes the changes Gary needs to make to his lists to make his claim correct?

A add 7 to the list of the factors of 28 and add 33 to the list of the factors of 66

B remove 3 from the list of the factors of 28 and remove 4 from the list of the factors of 66

C add 7 and 21 and remove 4 from the list of the factors of 28; add 33 and remove 3 from the list of the factors of 66

D add 7 and remove 3 from the list of factors of 28; add 6 and 33 and remove 4 from the list of factors of 66

This question has two parts. Be sure to answer all parts of the question.

14. The fourth-grade students at a school are having a pizza party. They need to know how much pizza the school should order for the party.
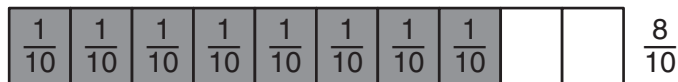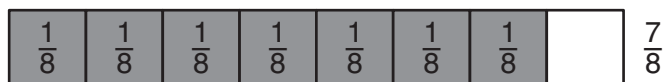
- There are 113 fourth-grade students.

- Each student will get 2 slices of pizza.

- Each pizza costs $7.

- There are 8 slices in each pizza.

a. Write an equation that can be used to find *s*, the number of **slices** of pizza the school needs to order. Be sure to solve your equation.

b. Write an equation that can be used to find *p*, the number of **pizzas** the school needs to order. Be sure to solve your equation. Explain how you found your answer.

15. Two fraction models are shown.

| $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | | $\frac{7}{8}$ |

| $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | | | $\frac{8}{10}$ |

Which statement is true?

A $\frac{7}{8} < \frac{8}{10}$ because there are a greater number of equal parts in the model for $\frac{8}{10}$.

B $\frac{7}{8} < \frac{8}{10}$ because a greater number of parts of the whole model for $\frac{8}{10}$ are shaded.

C $\frac{7}{8} > \frac{8}{10}$ because a greater number of parts of the whole model for $\frac{7}{8}$ are shaded.

D $\frac{7}{8} > \frac{8}{10}$ because a greater part of the whole model for $\frac{7}{8}$ is shaded.

16. A store owner ordered 12 times as many small posters as large posters. She ordered 48 large posters.

How many small posters were ordered?

A 4

B 60

C 124

D 576

17. An area model is shown.
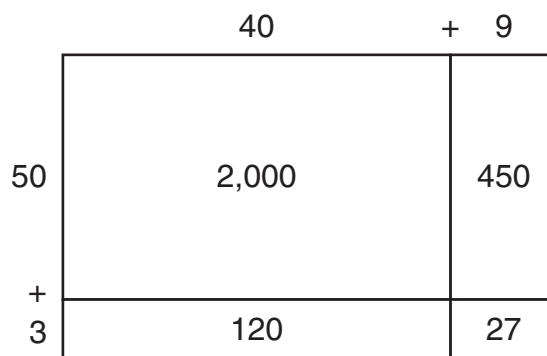
Which of these is **not** represented in the area model?

A $40+9$

B $49+53$

C 49×53

D 50×40

GO ON

18. Tanya made a pattern. All the numbers in her pattern can be divided by 3 evenly.

Which could be Tanya's pattern?

A Starting number: 1
Rule: Add 6.

B Starting number: 13
Rule: Subtract 1.

C Starting number: 9
Rule: Multiply by 2.

D Starting number: 12
Rule: Divide by 3.

SESSION
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Mathematics Session 2

19. Which sentence is true about all rhombuses?

    A   Opposite sides must be parallel.

    B   Opposite sides must be perpendicular.

    C   All angles must be 90°.

    D   All sides must be different lengths.

20. This table shows the distance Kim jumped on each of six jumps.

Kim's Jump Distances

Jump	Distance (meters)
1	1.61
2	1.86
3	1.53
4	1.84
5	1.59
6	1.72

What is the shortest distance Kim jumped?

    A   1.59 meters

    B   1.61 meters

    C   1.86 meters

    D   1.53 meters

21. Charisse made this shape by tracing a rectangle and a right triangle.
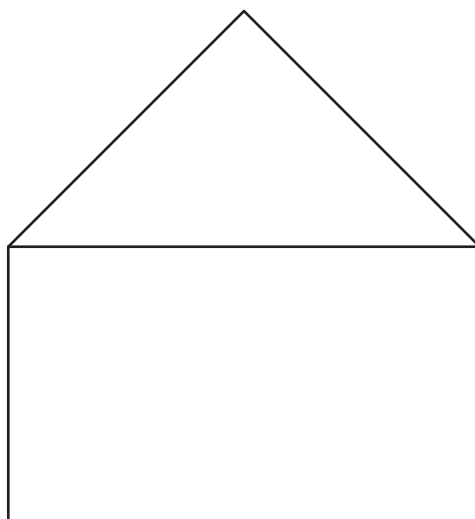
How many right angles are shown in Charisse's shape?

A   2

B   4

C   5

D   7

22. Josh walks 3 miles each week. This week he walks $\frac{3}{8}$ of a mile on Monday, $\frac{9}{8}$ of a mile on Wednesday, and $\frac{5}{8}$ of a mile on Thursday.

Which equation can Josh use to find m, the fraction of a mile he needs to walk the rest of the week to walk a total of 3 miles?

A $\quad 3 + (\frac{3}{8} + \frac{9}{8} + \frac{5}{8}) = m$

B $\quad 3 - (\frac{3}{8} + \frac{9}{8} + \frac{5}{8}) = m$

C $\quad 3 + (\frac{3}{8} - \frac{9}{8} - \frac{5}{8}) = m$

D $\quad 3 - (\frac{3}{8} - \frac{9}{8} - \frac{5}{8}) = m$

23. In which number is the value of the 4 equal to ten times the value of the 4 in 14,111?

    A 111,141

    B 111,411

    C 141,111

    D 411,111

GO ON

24. Select the **two** shapes that have the same number of lines of symmetry.

A

B

C

D

E
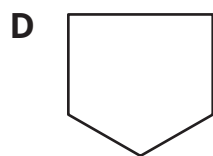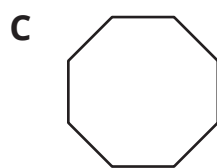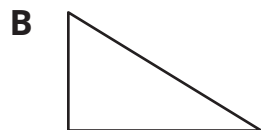
This question has two parts. Be sure to answer all parts of the question.

25. Kennan ran 5 kilometers. He incorrectly stated that he ran a total of 500 centimeters.

a. Why is Kennan's statement incorrect? Explain how you know.

b. How many centimeters are in 5 kilometers? Use words or numbers to explain your answer.

26. Sylvia is painting a square-shaped wall. Each side of the wall has a length of 12 feet.

Which expression could be used to find the area of the wall?

A $12 \times 12 \times 12 \times 12$

B 12×12

C $12 + 12 + 12 + 12$

D $12 + 12$

SESSION
2

GO ON

27. It takes Josh 24 minutes to walk from his house to the school. It takes him 8 minutes to walk from the school to the park.

How many times longer does it take him to walk from his house to the school than from the school to the park?

A 3

B 16

C 32

D 192

28. Four students are solving this problem.

> The sum of two fractions is 2. The difference between the two fractions is $\frac{1}{2}$. What are the two fractions?

Alice says the fractions are $\frac{4}{2}$ and $\frac{1}{2}$ because $\frac{4}{2} = 2$.

Bob says the fractions are $\frac{1}{4}$ and $1\frac{3}{4}$ because the sum is 2.

Cora says the fractions are $1\frac{3}{6}$ and $\frac{6}{6}$ because the difference is $\frac{1}{2}$.

Darius says the fractions are $1\frac{2}{8}$ and $\frac{6}{8}$ because $1 + \frac{2}{8} + \frac{6}{8} = 1 + 1$ and $\frac{10}{8} - \frac{6}{8} = \frac{4}{8}$.

Which child is correct?

A Alice

B Bob

C Cora

D Darius

SESSION **2**

GO ON

29. Isla makes a pattern that starts at 5 and uses the rule "Multiply by 10." Isla says that 550 will be a number in the pattern.

Which statement explains whether Isla is correct?

A She is incorrect because the last digit in each number is a 5.

B She is incorrect because only the first digit in each number is a 5.

C She is correct because all of the numbers have only 5s and 0s.

D She is correct because all of the numbers after the starting number end in 0.

30. The shaded parts of these models represent two decimals.
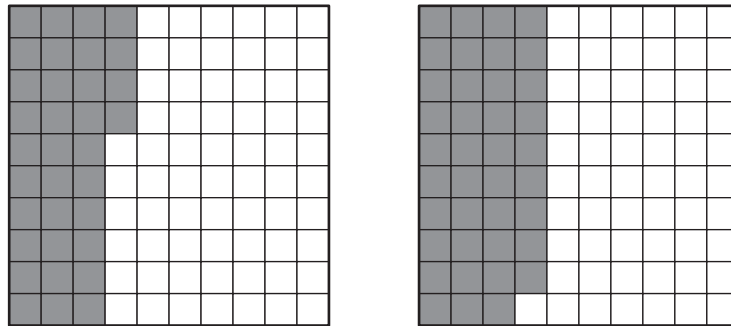
Which of these correctly compares the decimals shown in the models?

A $0.34 < 0.39$

B $0.43 < 0.34$

C $0.49 > 0.94$

D $0.34 > 0.39$

31. Which numbers, when rounded to the nearest thousand, become 38,000? Select the **two** correct answers.

    A 38,029

    B 37,099

    C 38,501

    D 37,551

    E 37,490

This question has three parts. Be sure to answer all parts of the question.

32. On Saturday, Katherine's Pie Shop sold 100 pies. This table shows the types and numbers of pies sold that day.

Katherine's Pies

Type of Pie	Number Sold
Apple	22
Blueberry	16
Strawberry	20
Chocolate	30
Lemon	12

a. What fraction of the pies sold were either blueberry or strawberry? Use words or numbers to explain your answer.

b. What fraction of the pies sold on Saturday were **not** apple? Use words or numbers to explain your answer.

c. Katherine calculated that $\frac{28}{100}$ of the pies sold represented two types of pie.

Which types of pie could this fraction represent? Use words or numbers to explain your answer.

SESSION **2**

GO ON →

33. Miss Manning has a 10-pound block of clay that she cuts into pieces. She gives different weights of clay to 10 students. The line plot shows the weight of the clay she gives to 9 of the students.

**Weight of Clay
(pounds)**
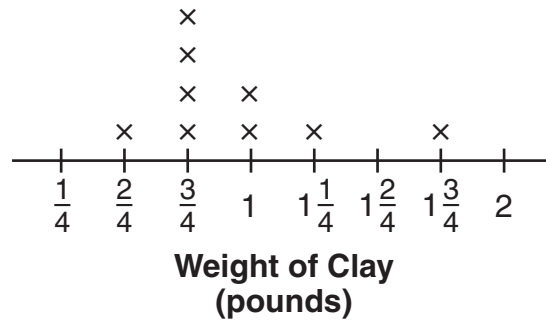
Miss Manning gives the rest of the clay to the last student. What is the weight, in pounds, of the clay she gives to the last student?

A $\dfrac{3}{4}$

B $1\dfrac{1}{4}$

C $1\dfrac{2}{4}$

D 2

GO ON

34. A zoo has four giraffes. Their weights are given in this table.

Giraffe Weights

Name	Weight (pounds)
Henry	2,298
Ida	2,423
Masi	2,407
Suzette	2,361

The zoo gets a new giraffe that weighs two thousand, three hundred eight pounds.

Which giraffe has a weight closest to the weight of the new giraffe?

A Henry

B Ida

C Masi

D Suzette

35. What is the missing fraction in this equation?

$$3\frac{1}{3} + 1\frac{2}{3} = \square + \frac{5}{3}$$

A $\frac{4}{3}$

B $\frac{9}{3}$

C $\frac{10}{3}$

D $\frac{12}{3}$

SESSION 2

GO ON

36. Four shapes are shown.
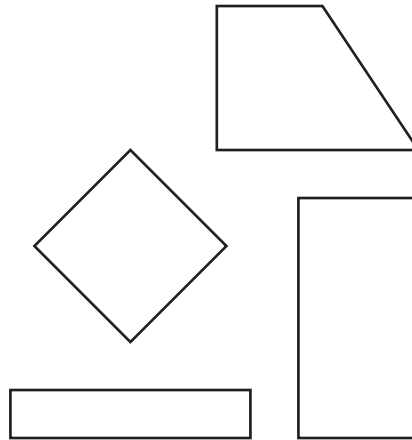
Brenna says the shapes all have at least two right angles. Then she realizes there are more ways the shapes are alike.

Which is **not** a way the shapes are alike?

A   They all have at least two pairs of perpendicular sides.

B   They all have at least two pairs of parallel sides.

C   They all are quadrilaterals.

D   They all have four angles.

SESSION
2

37. Angle *G* is measured by a protractor, as shown.
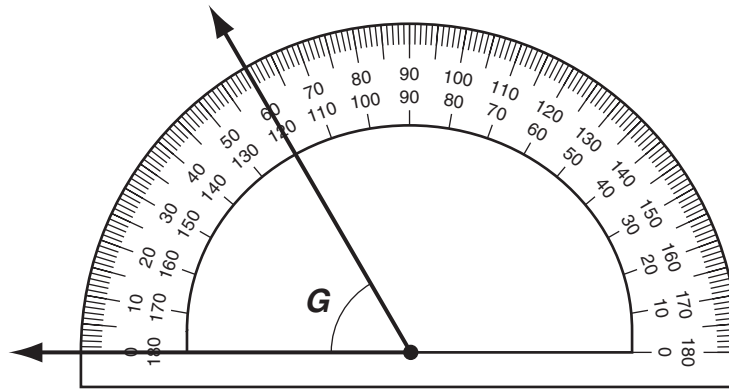
What is the measure of angle *G*?

A 0°

B 60°

C 120°

D 180°

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PRACTICE TEST ANSWER KEY
Grade 4

Item Number	Key	Standards
1	A	**4.OA.A.1** Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 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.
2	C	**4.MD.C.6** Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
3	D	**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. *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), …*
4	A	**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.
5	D	**4.NF.A.1** Explain why a fraction a/b is equivalent to a fraction $(n × a)/(n × b)$ 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.
6	B	**4.NBT.B.4** Fluently add and subtract multi-digit whole numbers using the standard algorithm.
7		**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.
8	C	**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.
9	A	**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] [1] See Glossary, Table 2.

Practice Test Answer Key • Grade 4 Math

Item Number	Key	Standards
10	A	**4.MD.A.2** Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
11	C	**4.MD.B.4** Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*
12	B	**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.
13	D	**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.
14		**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.
15	D	**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.
16	D	**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] [1] See Glossary, Table 2.
17	B	**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.

Practice Test Answer Key • Grade 4 Math

Item Number	Key	Standards
18	C	4.OA.C.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*
19	A	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.
20	D	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.
21	C	4.G.A.1 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.
22	B	4.NF.B.3 Understand a fraction a/b with a > 1 as a sum of fractions $1/b$. 4.NF.B.3.D Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
23	C	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. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*
24	D,E	4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.
25		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. *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), ...*
26	B	4.MD.A.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *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.*

Practice Test Answer Key • Grade 4 Math

Item Number	Key	Standards
27	A	**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] [1] See Glossary, Table 2.
28	D	**4.NF.B.3** Understand a fraction a/b with a > 1 as a sum of fractions 1/b. **4.NF.B.3.D** Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
29	B	**4.OA.C.5** Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*
30	A	**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.
31	A,D	**4.NBT.A.3** Use place value understanding to round multi-digit whole numbers to any place.
32		**4.NF.B.3** Understand a fraction a/b with a > 1 as a sum of fractions 1/b. **4.NF.B.3.D** Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
33	C	**4.MD.B.4** Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*
34	A	**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.
35	C	**4.NF.B.3** Understand a fraction a/b with a > 1 as a sum of fractions 1/b. **4.NF.B.3.C** 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.

Practice Test Answer Key • Grade 4 Math

Item Number	Key	Standards
36	B	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.
37	B	4.MD.C.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

Practice Test Answer Key • Grade 4 Math

#7

Concepts and Procedures Scoring Rubric

Score	Description
2	Student earns 2 points.
1	Student earns 1 point.
0	Student earns 0 points.
Blank	No response

Concepts and Procedures Training Notes:

| Part a. | 1 point | for correct answer, **2,400** |
| Part b. | 1 point | for correct answer, **475** |

Mathematical Practices Scoring Rubric

Score	Description
1	Student earns 1 point.
0	Student earns 0 points.
Blank	No response

Mathematical Practices Training Notes:

1 point   for using models to develop designs, predict outcomes, describe phenomena, solve problems, and explain causes and effects (student explains how to use the area model in part (b) to find the given quotient)

Rubric Block: Author, Scorer, Test-constructor, Tutor

Exemplary Response:

a. 2,400

b. The quotient is equal to $400 + n + 5$. The value of n is equal to $420 \div 6 = 70$. So the quotient of $2,850 \div 6$ is equal to $400 + 70 + 5 = 475$

Practice Test Answer Key • Grade 4 Math

#14

Concepts and Procedures Rubric

Score	Description
4	The student earns 4 points.
3	The student earns 3 points.
2	The student earns 2 points.
1	The student earns 1 point.
0	The student earns 0 points.
Blank	No response

Concepts and Procedures Training Notes:

Part a   2 points   for correct answer, **226 slices of pizza**, with correct equation, $s = 113 \times 2$, or equivalent

              OR

              1 point   for correct answer with incorrect or no equation

                      or

                      for correct equation with incorrect or no answer

Part b   2 points   for correct answer, **29 pizzas**, with correct equation, $p = 226 \div 8$, or equivalent

              OR

              1 point   for correct answer with incorrect or no equation

                      or

                      for correct equation with incorrect or no answer

Mathematical Practices Rubric

Score	Description
2	The student earns 2 points.
1	The student earns 1 point.
0	The student earns 0 points.
Blank	No response

Training Notes:

1 point   for making sense of problems (ignores extraneous information)

1 point   for ensuring the solution makes sense (considers how the remainder means an extra pizza will need to be ordered)

Exemplary Response:

a. 226 slices of pizza, $s = 113 \times 2, s = 226$

b. 29 pizzas, $p = 226 \div 8, p = 28$ R2, If the school ordered 28 pizzas, they would have 224 slices of pizza. The school needs 226 slices of pizza. So, the remainder tells me to add 1 more pizza to the order.

Practice Test Answer Key • Grade 4 Math

#25

Concepts and Procedures Scoring Rubric:

Score	Description
2	The student earns 2 points.
1	The student earns 1 point.
0	The student earns 0 points.
Blank	No response

Concepts and Procedures Training Notes:

Part b	2 points	for correct answer, **500,000 centimeters**, with sufficient explanation or work shown to convert from kilometers to centimeters
	OR	
	1 point	for correct answer with insufficient or no work or explanation
		or
		for appropriate conversion strategy with incorrect or no answer

Rubric Block: Author, Scorer, Test-constructor, Tutor

Mathematical Practices Scoring Rubric

Score	Description
1	The student earns 1 point.
0	The student earns 0 points.
Blank	No response

Mathematical Practices Training Notes:

1 point	for analyzing the problem to ensure the proper units are specified in the solution (student explains that an incorrect conversion factor was used to change kilometers to centimeters in part (a))

Rubric Block: Author, Scorer, Test-constructor, Tutor

Exemplary Response:

a. Keenan's statement uses the wrong conversion from kilometers to centimeters. He may have confused kilometers with meters since 1 meter is 100 centimeters.

b. 1 kilometer is 1,000 meters, so 5 kilometers is $5 \times 1,000 = 5,000$ meters.

1 meter is 100 centimeters, so 5,000 meters is $5,000 \times 100 = 500,000$ centimeters.

Practice Test Answer Key • Grade 4 Math

#32

Concepts and Procedures Scoring Rubric:

Score	Description
4	The student earns 4 points.
3	The student earns 3 points.
2	The student earns 2 points.
1	The student earns 1 point.
0	The student earns 0 points.
Blank	No response

Training Notes:

Part a   2 points   for correct answer, $\dfrac{36}{100}$ **or equivalent**, with strategy that shows understanding of adding fractions that refer to

same whole and have like denominators

OR

1 point   for correct answer with insufficient or no work or explanation

OR

for strategy that shows understanding of adding fractions that refer to same whole and have like denominators with incorrect or no answer

Part b   1 point   for correct answer, $\dfrac{78}{100}$ **or equivalent**

Part c   1 point   for correct answer, **blueberry and lemon**

Mathematical Practices Scoring Rubric

Score	Description
2	The student earns 2 points.
1	The student earns 1 point.
0	The student earns 0 points.
Blank	No response

Training Notes:

1 point   for making use of structure (shows understanding of adding or subtracting fractions to justify the fraction in part (b))

1 point   for using mathematical properties (decomposes 28 into 16 and 12 to justify the answer in part (c))

Rubric Block: Author, Proctor, Scorer, Test-constructor, Tutor

Exemplary Response:

a. $\dfrac{36}{100}$; 16 out of 100 or $\dfrac{16}{100}$ were blueberry, 20 out of 100 or $\dfrac{20}{100}$ were strawberry; $\dfrac{16}{100} + \dfrac{20}{100} = \dfrac{36}{100}$

b. $\dfrac{78}{100}$; 100 pies were sold, $\dfrac{22}{100}$ were apple, $100 - 22 = 78$, so $\dfrac{78}{100}$ were not apple

c. Blueberry and lemon; the two fractions that represent each flavor as a fraction of the total number of pies sold have to add up to $\dfrac{28}{100}$.

This means that the number of pies sold for the two flavors must add up to 28. Of the numbers given, only two numbers add up to 28: 16 and 12. Therefore, the fraction represents blueberry and lemon pies sold.