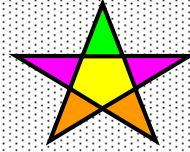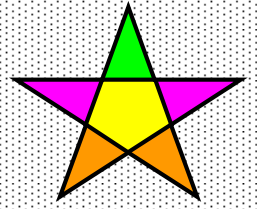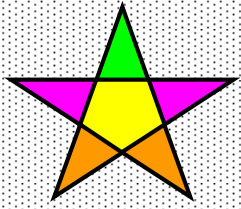**TEKSING TOWARD STAAR**

MATHEMATICS

GRADE 4
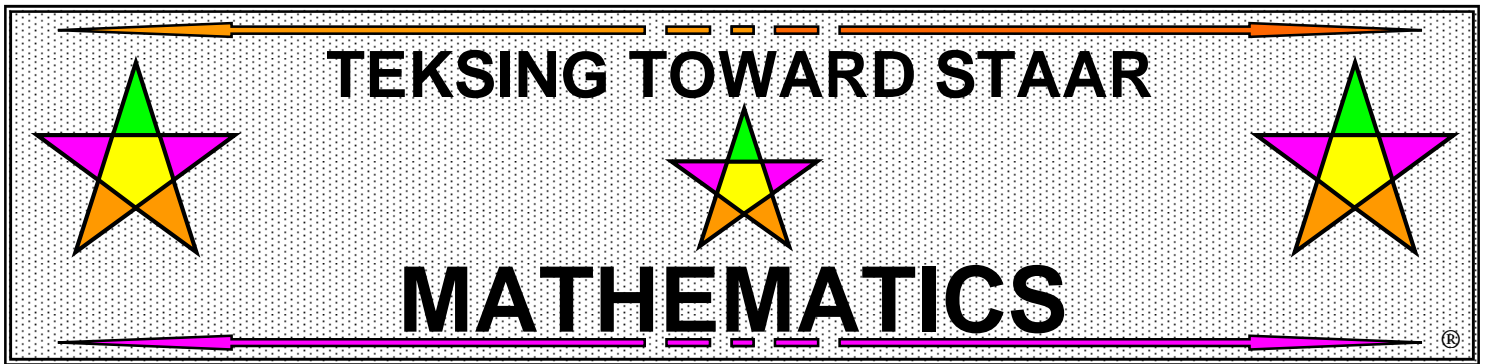# STAAR Format
Skills
and
Concepts

Organized by
TEKS Categories

TEKSING TOWARD STAAR
MATHEMATICS ®

OVERVIEW
Grade 4 Open-Ended Skills and Concepts

This document was created with all students in mind and provides teachers with sets of 5 open-ended questions to assess student mastery of all grade level TEKS, including the Process Standards TEKS, and the TEKS not assessed on STAAR. Each set of questions in this document is correlated to a specific Category and TEKS.

There are 9 sets of 5 open-ended questions to assess student mastery of each of the 7 Process Standards TEKS. Each question on each set is also correlated to another TEKS. There is one question in each of the sets for each of the Process Standards TEKS that addresses each of the grade level TEKS.

These materials can be utilized for guided practice, independent practice, or homework. These materials can be utilized with a whole class, or in small groups and/or tutorial settings.

NOTE: There is no answer key provided for the Skills and Concepts problems as the author's philosophy is that each teacher should create a personalized Solutions Manual so the teacher becomes more familiar with the Revised TEKS and assessment of the Revised TEKS, as well as formulates various solution strategies for each question. Teachers are encouraged to communicate with the author regarding discussion of any question in this document.

AUTHOR'S VISION FOR IMPLEMENTATION - SKILLS AND CONCEPTS

- Skills and Concepts are open-ended questions that are organized by individual TEKS. Each Skills and Concepts includes 5 open-ended questions.
- The teacher sets a time limit prior to students' beginning the Skills and Concepts if the material is being utilized for independent practice.
- Students work on Skills and Concepts in partner pairs even during independent practice. Partner pairs are given specific "share questions" on the Skills and Concepts. The process that should be followed by all partner pairs is to complete the question(s) they are assigned, then work on the other questions until time is called.
- The teacher calls time and the partner pairs guide class discussion on their "share questions" assignments. Students who did not complete the Skills and Concepts prior to the time limit may record on their individual papers during the discussion time but must record in a different color.
- A Skills and Concepts should not be sent home for homework until the majority of the class has demonstrated mastery of the TEKS addressed.

TEKS Category 1 - Mathematical Process Standards

**These student expectations will not be listed under a separate TEKS category.
Instead, they will be incorporated into questions across TEKS categories since
the application of mathematical process standards is part of each knowledge statement.**

(3.1) Mathematical Process Standards
The student uses mathematical processes to acquire and demonstrate mathematical understanding.

STAAR Category	TEKS	STUDENT EXPECTATION	Number of Skills & Concepts
1-4	**4.1(A)**	apply mathematics to problems arising in everyday life, society, and the workplace	9
1-4	**4.1(B)**	use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution	9
1-4	**4.1(C)**	select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems	9
1-4	**4.1(D)**	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate	9
1-4	**4.1(E)**	create and use representations to organize, record, and communicate mathematical ideas	9
1-4	**4.1(F)**	analyze mathematical relationships to connect and communicate mathematical ideas	9
1-4	**4.1(G)**	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication	9

TEKS Category 2: Number and Operations

(4.2) Number and Operations
The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value.

STAAR Standard	TEKS	STUDENT EXPECTATION	Number of Skills & Concepts
Supporting	4.2(A)	interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left	4
Readiness	4.2(B)	represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals	4
Supporting	4.2(C)	compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =	4
Supporting	4.2(D)	round whole numbers to a given place value through the hundred thousands place	4
Supporting	4.2(E)	represent decimals, including tenths and hundredths, using concrete and visual models and money	4
Supporting	4.2(F)	compare and order decimals using concrete and visual models to the hundredths	4
Readiness	4.2(G)	relate decimals to fractions that name tenths and hundredths	4
Supporting	4.2(H)	determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line	4

(4.3) Number and Operations
The student applies mathematical process standards to represent and generate fractions to solve problems.

STAAR Standard	TEKS	STUDENT EXPECTATION	Number of Skills & Concepts
Supporting	4.3(A)	represent a fraction a/b as a sum of fractions $1/b$, where a and b are whole numbers and $b > 0$, including when $a > b$	4
Supporting	4.3(B)	decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations	4
Supporting	4.3(C)	determine if two given fractions are equivalent using a variety of methods	4
Readiness	4.3(D)	compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <	4
Readiness	4.3(E)	represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations	4
Supporting	4.3(F)	evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole lines	4
Supporting	4.3(G)	represent fractions and decimals to the tenths or hundredths as distances from zero on a number line	4

TEKSING TOWARD STAAR
GRADE 4 SKILLS AND CONCEPTS
Table of Contents

TEKS Category 2: Number and Operations

(4.4) Number and Operations
The student applies mathematical process standards to develop and use strategies and
methods for whole number computations and decimal sums and differences
in order to solve problems with efficiency and accuracy.

STAAR Standard	TEKS	STUDENT EXPECTATION	Number of Skills & Concepts
Readiness	4.4(A)	add and subtract whole numbers and decimals to the hundredths place using the standard algorithm	4
Supporting	4.4(B)	determine products of a number and 10 or 100 using properties of operations and place value understandings	4
Supporting	4.4(C)	represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15	4
Supporting	4.4(D)	use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties	4
Supporting	4.4(E)	represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations	4
Supporting	4.4(F)	use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor	4
Supporting	4.4(G)	round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers	4
Readiness	4.4(H)	solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders	4

TEKS Category 3: Algebraic Reasoning

(4.5) Algebraic Reasoning
The student applies mathematical process standards to develop concepts
of expressions and equations.

STAAR Standard	TEKS	STUDENT EXPECTATION	Number of Skills & Concepts
Readiness	**4.5(A)**	represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity	4
Readiness	**4.5(B)**	represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence	4
Not Tested	**4.5(C)**	use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l \times w$)	1
Readiness	**4.5(D)**	solve problems related to perimeter and area of rectangles where dimensions are whole numbers	4

TEKS Category 4: Geometry and Measurement

(4.6) Geometry and Measurement
The student applies mathematical process standards to analyze geometric attributes
in order to develop generalizations about their properties.

STAAR Standard	TEKS	STUDENT EXPECTATION	Number of Skills & Concepts
Supporting	**4.6(A)**	identify points, lines, line segments, rays, angles, and perpendicular and parallel lines	4
Supporting	**4.6(B)**	identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure	4
Supporting	**4.6(C)**	apply knowledge of right angles to identify acute, right, and obtuse triangles	4
Readiness	**4.6(D)**	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	4

(4.7) Geometry and Measurement
The student applies mathematical process standards to solve problems
involving angles less than or equal to 180 degrees.

STAAR Standard	TEKS	STUDENT EXPECTATION	Number of Skills & Concepts
Not Tested	**4.7(A)**	illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers	1
Not Tested	**4.7(B)**	determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems	1
Readiness	**4.7(C)**	determine the approximate measures of angles in degrees to the nearest whole number using a protractor	4
Supporting	**4.7(D)**	draw an angle with a given measure	4
Supporting	**4.7(E)**	determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures	4

(4.8) Geometry and Measurement
The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement.

STAAR Standard	TEKS	STUDENT EXPECTATION	Number of Skills & Concepts
Supporting	**4.8(A)**	identify relative sizes of measurement units within the customary and metric systems	4
Supporting	**4.8(B)**	convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table	4
Readiness	**4.8(C)**	solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate	4

TEKS Category 5: Data Analysis

(4.9) Data Analysis
The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data.

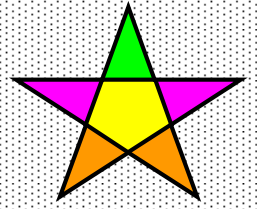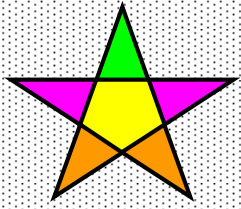| STAAR Standard	TEKS	STUDENT EXPECTATION	Number of Skills & Concepts
Readiness	**4.9(A)**	represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions	4
Supporting	**4.9(B)**	solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot	4

TEKS Category 6: Personal Financial Literacy

(4.10) Personal Financial Literacy
The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security.

STAAR Standard	TEKS	STUDENT EXPECTATION	Number of Skills & Concepts
Supporting	**4.10(A)**	distinguish between fixed and variable expenses	2
Supporting	**4.10(B)**	calculate profit in a given situation	2
Not Tested	**4.10(C)**	compare the advantages and disadvantages of various savings options	1
Not Tested	**4.10(D)**	describe how to allocate a weekly allowance among spending, saving, including for college, and sharing	1
Supporting	**4.10(E)**	describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending	2

TEKSING TOWARD STAAR
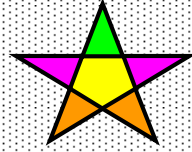
MATHEMATICS

GRADE 4
Open-Ended
Skills and Concepts

TEKS CATEGORY 1
Mathematical
Process Standards

NAME_____   DATE_____   SCORE ____/10

4.1A Skills and Concepts 1

4.2A

1. Use a place-value chart to complete the table to record 10 times as much as or $\frac{1}{10}$ of the given numbers. Given numbers: 8.0, 0.3, 4.0, 0.5

    Step 1: Write the given number in a place-value chart.

Tens	Ones	.	Tenths	Hundredths
		.		
		.		
		.		
		.		

    Step 2: Use the place-value chart to write a number in the table that is 10 times as much as the given number.

Given Number	10 times as much as given number	$\frac{1}{10}$ of given number

    Step 3: Use the place-value chart to write a number in the table that is $\frac{1}{10}$ of the given number.

Given Number	10 times as much as given number	$\frac{1}{10}$ of given number

    Each place-value position is _____ times the value of the position to its right.

   Each place-value position is _____-_____ of the value of the position to its left.

4.2B

2. Write forty-nine thousand, two hundred fifty-seven in standard form. _____

   Write this number in expanded form.

   Explain why you know your answer is correct.

4.2C

3. Use a number line to compare 65,747,958 and 65,849,068.

   • Both numbers are greater than _____ and less than

   _____.

   • The number _____ comes first on the number line between

   _____ and _____.

   • The number _____ is almost in the middle between

   _____ and _____.

   • The number _____ is a little closer to _____ than

   _____.
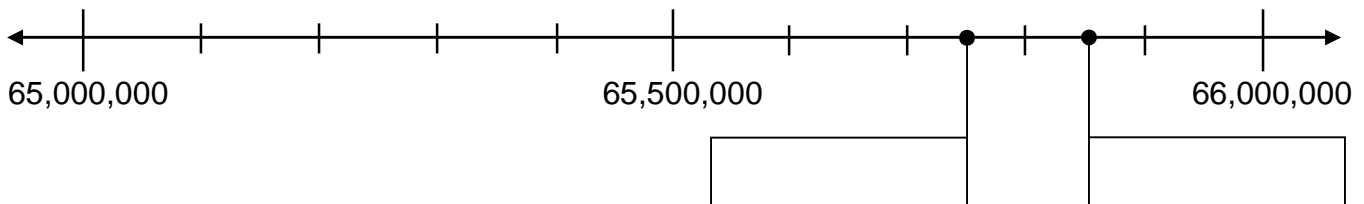
4.2D

4. There are 323 students registered to attend the Summer Math and Science Cap at Madison Elementary School. An equal number of registrations came from each of 4 grade levels. To the nearest 10, about how many students are registered from each grade level?

   _____ Explain how you know your answer is correct.

4.2E

5. Look at this number line.
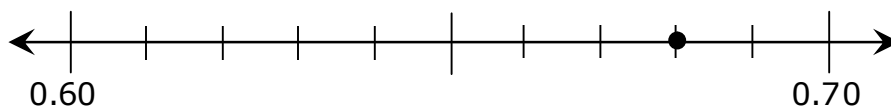
   What decimal is represented by the point shown on the number line? _____

NAME_____   DATE_____   SCORE ____/10

4.1A Skills and Concepts 2

4.2F

1. Use the number line below to order 1.32, 1.23, 1.3, and 1.2 from greatest to least.

1.00   1.10   1.20   1.30   1.40   1.50   1.60   1.70   1.80   1.90
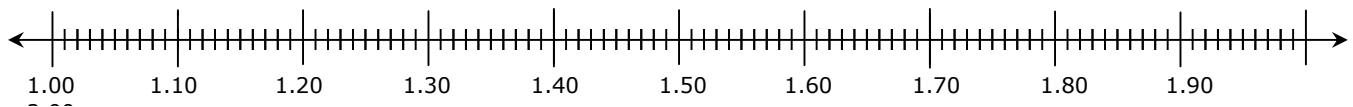
List the numbers in order from least to greatest.

_____, _____, _____, _____

4.2G

2. The model below is shaded to represent a number greater than 1.
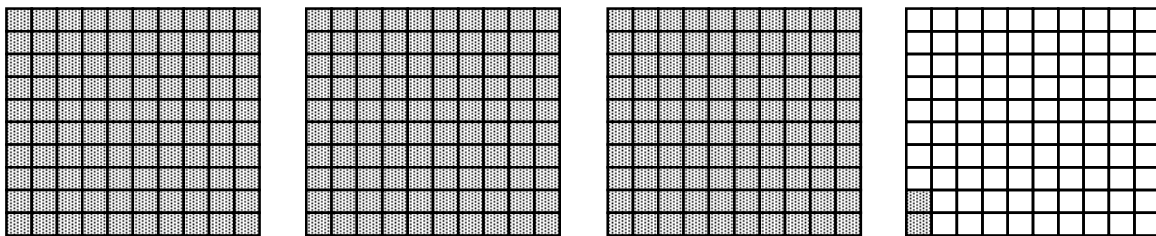
What fraction is represented by the model? _____

What decimal is represented by the model? _____
Explain how you know your answers are correct.

4.2H

3. Look at the number line.

Which point represents 0.7 on the number line? _____

What decimal does point *B* represent? _____

What decimal does point *D* represent? _____
Explain how you know this decimal is correct.

4.3A

4. What fraction is represented by the sum of $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$? _____

   Explain how you know your answer is correct.

4.3B

5. The model shown below represents the distance Lena walks to the city library.

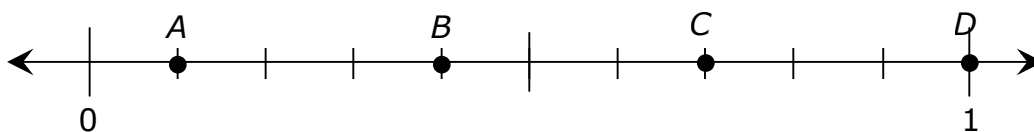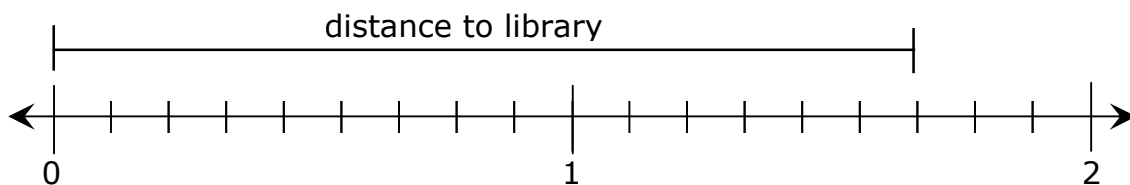   Explain why the expression $\frac{1}{9} + \frac{1}{9} + \frac{1}{9} + \frac{1}{9} + \frac{1}{9}$ does **NOT** represent the distance Lena walks to the city library.

   Write an expression that does represent the distance Lena walks to the city library.

   Explain why the expression you wrote represents the distance Lena walks to the city library.

NAME_____   DATE_____   SCORE ____/10

4.1A Skills and Concepts 3

4.3C

1. Jay played his new video game for $\frac{35}{60}$ of an hour.   Find a fraction with a numerator of 7 that is equivalent to $\frac{35}{60}$.   Show your work to prove your answer are correct.

4.3D

2. Nancy made a design with colored tiles. The design was more than $\frac{2}{3}$ green.

   Use >, < or = to complete the following to make a true statement.

$$\frac{4}{6} \underline{\quad} \frac{2}{3}$$

   Explain why this is a true statement.

4.3E

3. Liza surveyed the fifth grade students. She asked them which subject was their favorite.

   She found that $\frac{2}{7}$ of the students said science was their favorite subject and $\frac{3}{7}$ of the students said reading was their favorite subject.

   What fraction of the students said their favorite subject was science or reading? _____
   Explain how you know your answer is correct.

4.3F

4. Remisha found the sum of $\frac{4}{10}$ and $\frac{2}{10}$ is $\frac{6}{10}$. Use benchmark fractions 0, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 to complete the statement to describe the reasonableness of the sum.

The sum of $\frac{6}{10}$ is reasonable because _____ + _____ = _____, and _____

is close to $\frac{6}{10}$ on a number line.

4.3G

5. Which point represents $13\frac{1}{3}$ on the number line? _____
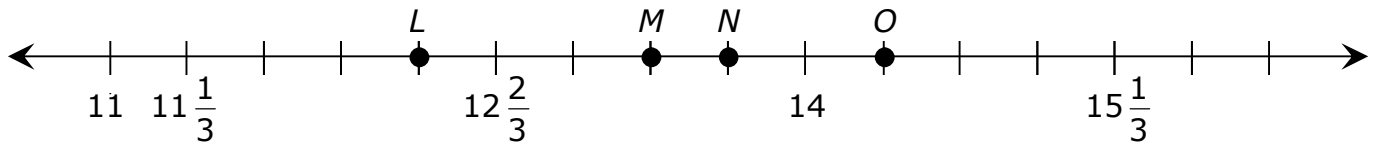
Explain how you know your answer is correct.

What decimal is represented by point *N* on the number line? _____
Explain how you know your answer is correct.

What fraction is represented by point *L* on the number line? _____
Explain how you know your answer is correct.

What decimal is represented by point *N* on the number line? _____
Explain how you know your answer is correct.

NAME_____   DATE_____   SCORE ____/10

4.1A Skills and Concepts 4

4.4A

1. Malcolm spent $85.43 on wallpaper, $21 on paint, and $7.84 on brushes and other supplies for redecorating a bathroom.   He gave the clerk $120.00.

   How much change should he receive? _____
   Show your work to prove your answer is correct.

4.4B

2. While waiting for the school bus, Andrea counted 53 cars in the first minute. She waited for the school bus for 6 minutes. What is the best estimate of the total number of cars Andrea counted if she counted about the same number of cars each minute?

   Since the question asks *approximately how many*,_____ the answer.

   The number 53 is close to _____.

   Use the operation of _____ to estimate the total number of cars counted.

   The number sentence _____ × _____ = _____ shows approximately how many cars were counted.

   Andrea counted about _____ cars.

4.4C

3. Nevia used tiles to make a mosaic. She placed 13 tiles in each row. She made 13 rows of tiles. Find the number of tiles Nevia used in the mosaic. Show your work to prove your answer is correct.

   Nevia used _____ tiles in the mosaic. Explain how you know your answer is correct.

4.4D

4. An irrigation system in a cotton field can spray 785 gallons of water every hour. If the system operated for a total of 4 hours today, how many gallons did it spray? Show your work.

Use reverse factors to check your answer in the space above.

4.4E

5. To display some airline schedules, an attendant arranged 96 schedules in 4 display containers. How many schedules are in each display container?

    • Use the operation of _____ to solve this problem.

    To find how many schedules are in each display container, divide _____ by _____.

    • Draw a model to solve the problem.

    The model shows _____ schedules are in each display container.

    Divide without using models.

    • Divide the tens by the divisor. Show your work to the right.

    Divide _____ tens by _____.   Four will go into 9 _____ times.

    Put the _____ in the quotient over the _____.

    Multiply _____ by _____ and then subtract the product from _____.

    • Bring down the _____ and divide by the divisor again. Show your work.

    _____ ÷ _____ = _____

    The _____ goes in the quotient.

    Multiply _____ by _____ and then subtract the product from _____.

    When you subtract, you get _____. There is nothing left to bring down. There is no remainder. This is the last step in the division problem.

    The quotient is _____.

    The division shows _____ schedules are in each display container.

    Either way, _____ schedules are in each display container.

NAME_____   DATE_____   SCORE ____/10

4.1A Skills and Concepts 5

4.4F

1. Alyssa used a total of 365 beads to make 5 necklaces. She used an equal number of beads to make each necklace. Show your work to find how many beads Alyssa used to make each necklace.

    Alyssa used _____ beads to make each necklace.
    Use multiplication in the space above to prove your answer is correct.

4.4G

2. John measured the weights of one log and one rock. The weight of the log is 362 pounds. The weight of the rock is 428 pounds.

    Estimate the total weight of the two objects, to the nearest ten pounds.

    • The log weighs _____ pounds.

    • To the nearest ten, the log weighs about _____ pounds.

    • The rock weighs _____ pounds.

    To the nearest ten, the rock weighs about _____ pounds.

    • Use the operation of _____ to find the total estimated weight of the log and the rock.

    The expression _____ + _____ = _____ shows the estimate of the total weight of the two objects.

    The estimate of the total weight of the two objects, to the nearest ten, is _____ pounds.

    What is a good estimate for the difference between the weight of the two objects, to the nearest ten?

    • Use the operation of _____ to find the difference between the estimated weight of the log and the rock.

    The expression _____ - _____ = _____ shows the estimated difference between the weight of the objects.

    The estimate for the difference between the weights of the two objects, to the nearest ten, is _____ pounds.

4.4H

3. Volunteers built a new patio area at the city park. They laid 8 concrete tiles in each of 13 rows. The center section of the patio has 7 rows of 4 tiles that are grey concrete. The rest of the tiles are red concrete. How many tiles did the volunteers lay to make the patio area?

   • Use strip diagrams and equations to solve the problem step-by-step. Show all of your work on notebook paper.

   The volunteers laid _____ tiles to make the patio.

4.5A

4. Suri scored a total of 19,221 points in three rounds of a video game. She scored 4,591 points in the first round of the game and she scored 8,526 points in the third round. Suri wants to find the number of points she scored in the second round. First, she used the equation shown below to represent the number of points she scored in the first and third rounds combined.

$$4,591 + 8,526 = 13,117$$

   Let s = second round score. Write an equation that represents the number of points Suri scored in the second round.

   Explain how you know the equation is correct.

4.5B

5. Find a rule for the input-output table.

   • The output is ____ less than the input.

   • Use ____ for the input.

   • Rule: The output is ____ _ ____

   Now complete the table.

Input	Rule	Output
a		b
7		3
9		5
11		7
13		9

Explain how you found the rule for the input-output table.

NAME_____   DATE_____   SCORE ___/10

4.1A Skills and Concepts 6

4.5C

1. Geraldo is putting a brick border around a rectangular flower garden. The length of the garden is 5 feet and the width of the garden is 7 feet. Geraldo needs to find the perimeter of the garden so that he will know how many feet of border he needs.

   Describe what Geraldo can do to find the perimeter of the garden.

   The formula for the perimeter of a rectangle is _____.

4.5D

2. Find the area of a square with a side length of 7 inches. Sketch the figure. Record any formula you use and show your work.
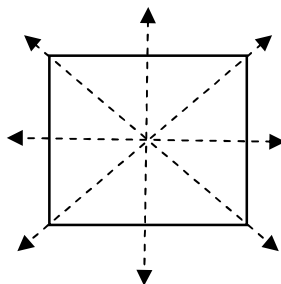
   The area of a square with a side length of 7 inches is _____ square _____.

4.6A

3. Explain the difference between a line and a line segment.
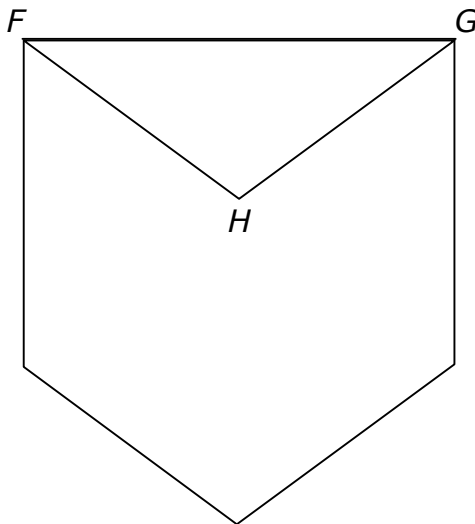
4.6B

4. Look at the figure.

Write a statement that compares the number lines of symmetry to the number of angles in the figure.

Write a statement that compares the number lines of symmetry to the number of sides in the figure.

4.6C

5. Which type of triangle is △*FGH*? _____
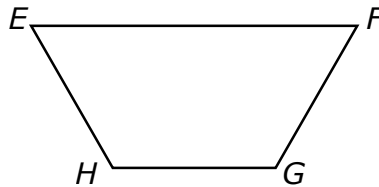

Explain how you know your answer is correct.

NAME_____ DATE_____ SCORE ____/10

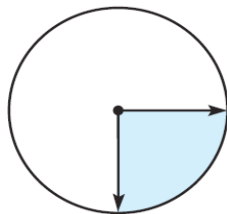## 4.1A Skills and Concepts 7

4.6D

1. Quadrilateral *EFGH* is shown below.

Complete the following to make a true statement.

Quadrilateral _____ is a _____ because $\overline{EF}$ and $\overline{HG}$ are

_____ and no other _____ of sides is parallel.

4.7A

2. An angle is shown by the shaded part of the circle. What fraction does the angle "cut out" of the circle?
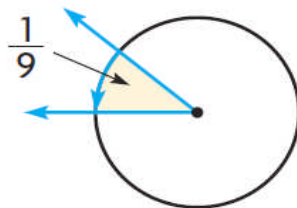

The angle "cuts out" _____ of the circle.

Explain how you know your answer is correct.

4.7B

3. Find the measure of the angle.
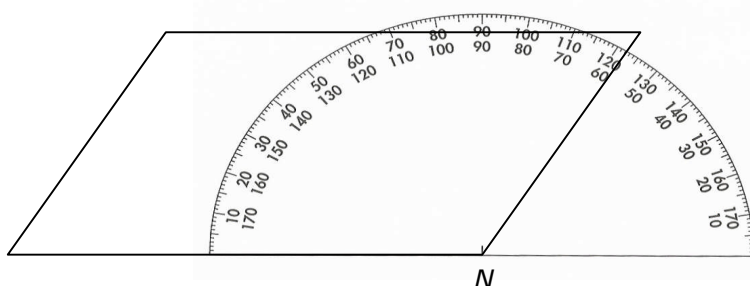

What fraction of the circle does the angle "cut out"?

$$\frac{1}{9} = \frac{\square}{360}$$

So, the angle measures _____°.
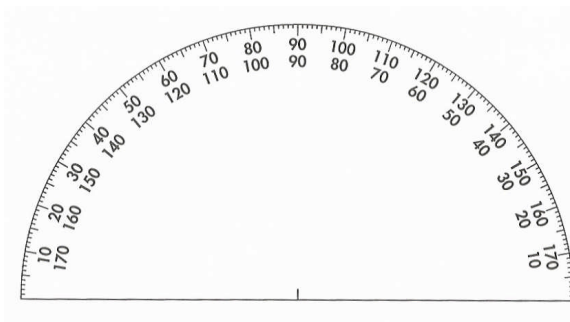
Explain how you know your answer is correct.

4.7C

4. A parallelogram is shown on the protractor.

N

What is the measure of ∠*N* to the nearest degree? _____
Explain how you know your answer is correct.

4.7D

5. Suki drew an angle that measures 135°. Draw an angle that measures 135° on the protractor.

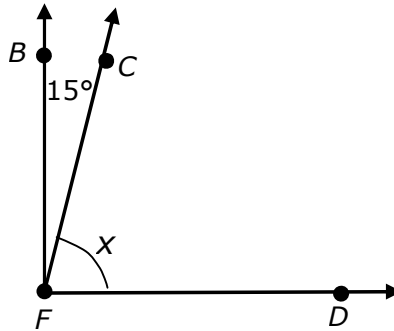Explain how you know the angle you drew measures 135°.

NAME_____   DATE_____   SCORE ____/10

4.1A Skills and Concepts 8

4.7E

1. Angle *BFD* is a right angle.

   What is the measure of the unknown angle *DFC* ? _____
   Explain how you know your answer is correct.

4.8A

2. Les bought a box of candy at the movie theater. Circle which of the following Les should use to describe the length of the box of candy.

   Could 15 millimeters describe the length of the box of candy? _____
   Explain why or why not.

   Could 15 centimeters describe the length of the box of candy? _____
   Explain why or why not.

   Could 15 kilometers describe the length of the box of candy? _____
   Explain why or why not.

   Could 15 meters describe the length of the box of candy? _____
   Explain why or why not.

4.8B

3. The Texas Café made 17,000 milliliters of iced tea for lunch.

Metric Units of Liquid Volume
1 liter (L) = 1,000 milliliters (mL)

   How many liters of iced tea did the Texas Café make for lunch? _____

Explain how you know your answer is correct.

4.8C

4. Kip has a block of pottery clay with a mass of 24 kilograms. He is going to use the same amount of the clay to make each of 6 sculptures. How many grams of clay will he use to make each sculpture? Show your work to find the answer.

Kip will use _____ grams of clay to make each sculpture.

4.9A

5. Based on the data in the table, decide why each statement is true or false.
   • Evie rode her bicycle more 12 mile days than 10 mile days. This statement is

   _____ because:

   • Evie rode her bicycle less 9 mile days than 8 mile days. This statement is

   _____ because:

   • Evie rode her bicycle four 9, 10, and 13 mile days. This statement is _____
   because:

   • Evie rode her bicycle the same number of 9 mile and 10 mile days. This

   statement is _____ because:

NAME_____   DATE_____   SCORE ____/10

4.1A Skills and Concepts 9

4.9B

1. Dawn is in charge of bluebonnet seed packet sales for the science club. She created a frequency table to represent the number of seed packets sold by the members of the club.

Bluebonnet Seed Sales

Number of Seed Packets Sold	Number of Members
25	4
30	6
35	7
40	5
45	2
50	5

How many members sold fewer than 40 bluebonnet seed packets? _____
Explain how you know your answer is correct.

4.10A

2. Each month Jackson pays a house payment, a health club membership fee, a car payment, and the cost of food. Which of these expenses is a variable expense?

_____   Explain why this is a variable expense.

4.10B

3. Damien helped his friend move. He spent $33.48 for gas and $24.98 for work gloves. His friend paid him $200. What is the amount of Damien's profit?
Show your work.

The amount of Damien's profit is $_____.

4.10E

4. Casey borrowed $200 from her bank. The rate the bank is charging her for the personal loan is shown below.

Bank Loan Rates

Type of Loan	Length of Loan	Interest Charged
Personal Loan	4 months	$6 for every $100 borrowed

What is the total amount that Casey will have to repay the bank? Show your work.

The total amount that Casey will have to repay the bank is $_____.

TEKSING TOWARD STAAR
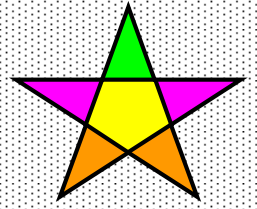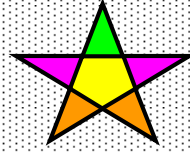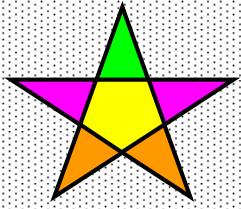
MATHEMATICS

GRADE 4
Open-Ended
Skills and Concepts

TEKS CATEGORY 2
Number and Operations

NAME_____   DATE_____   SCORE ____/5

4.3B Skills and Concepts 1

1. Use strip diagrams to represent $\frac{5}{2}$ in 3 different ways as a sum of fractions with the same denominator and record the results with symbolic representation.
   • Sketch and label a picture of your first representation.

   Symbolic representation:

   • Sketch and label a picture of your second representation.

   Symbolic representation:

   • Sketch and label a picture of your third representation.

   Symbolic representation:

   • Are there more ways to represent $\frac{5}{2}$ as a sum of fractions with the same denominator and record the results with symbolic representation? _____
   Explain your answer.

2. Use strip diagrams to represent $\frac{8}{3}$ in 3 different ways as a sum of fractions with the same denominator and record the results with symbolic representation.
    • Sketch and label a picture of your first representation.

       Symbolic representation:

    • Sketch and label a picture of your second representation.

       Symbolic representation:

    • Sketch and label a picture of your third representation.

       Symbolic representation:

    • Are there more ways to represent $\frac{8}{3}$ as a sum of fractions with the same denominator and record the results with symbolic representation? _____
       Explain your answer.

3. Use strip diagrams to represent $\frac{7}{4}$ in 3 different ways as a sum of fractions with the same denominator and record the results with symbolic representation.
   • Sketch and label a picture of your first representation.

   Symbolic representation:

   • Sketch and label a picture of your second representation.

   Symbolic representation:

   • Sketch and label a picture of your third representation.

   Symbolic representation:

   • Are there more ways to represent $\frac{7}{4}$ as a sum of fractions with the same denominator and record the results with symbolic representation? _____
   Explain your answer.

4. Use strip diagrams to represent $\frac{11}{5}$ in 3 different ways as a sum of fractions with the same denominator and record the results with symbolic representation.
    • Sketch and label a picture of your first representation.

    Symbolic representation:

    • Sketch and label a picture of your second representation.

    Symbolic representation:

    • Sketch and label a picture of your third representation.

    Symbolic representation:

    • Are there more ways to represent $\frac{11}{5}$ as a sum of fractions with the same denominator and record the results with symbolic representation? _____
    Explain your answer.

5. Use strip diagrams to represent $\frac{8}{6}$ in 3 different ways as a sum of fractions with the same denominator and record the results with symbolic representation.
   • Sketch and label a picture of your first representation.

      Symbolic representation:

   • Sketch and label a picture of your second representation.

      Symbolic representation:

   • Sketch and label a picture of your third representation.

      Symbolic representation:

   • Are there more ways to represent $\frac{8}{6}$ as a sum of fractions with the same denominator and record the results with symbolic representation? _____
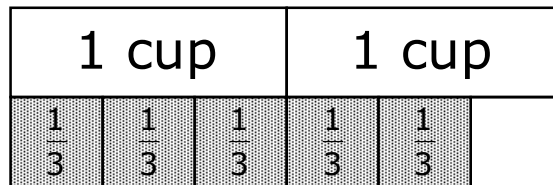   Explain your answer.

NAME_____   DATE_____   SCORE ____/5

4.3B Skills and Concepts 2

1. Juan mixed blueberry yogurt and milk to make a smoothie. The amount of smoothie he made is represented by the shaded part of the model shown below.

1 cup	1 cup

| $\frac{1}{3}$ | $\frac{1}{3}$ | $\frac{1}{3}$ | $\frac{1}{3}$ | $\frac{1}{3}$ | |

Explain why the equation $1 + \frac{1}{3} + \frac{1}{3} = 1\frac{2}{3}$ represents the amount of smoothie that

Juan made.

Write another equation that represents the amount of smoothie that Juan made.

2. Candle wax has been poured into 4 different cubes. The cubes are represented below.
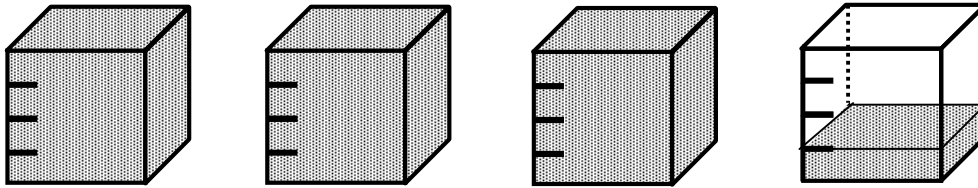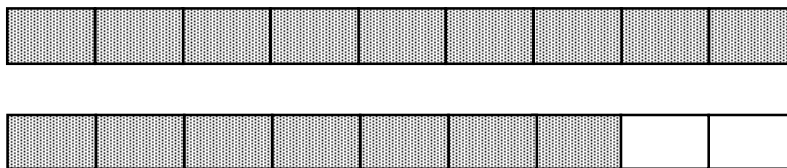

Explain why $\frac{13}{4}$ represents the shaded part of the cubes.

Explain why $1 + 1 + 1 + \frac{1}{4}$ represents the shaded part of the cubes.

Explain why $1 + 1 + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$ does NOT represent the shaded part of the cubes.
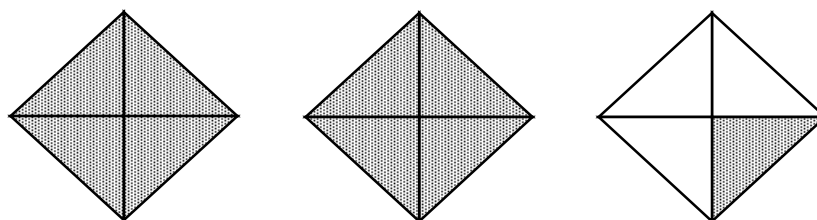
3. The shaded part of the model shown below represents a fraction greater than 1.

   Explain why $1 + \dfrac{1}{9} + \dfrac{1}{9} + \dfrac{1}{9} + \dfrac{1}{9} + \dfrac{1}{9} + \dfrac{1}{9} + \dfrac{1}{9}$ represents the shaded part of the model.

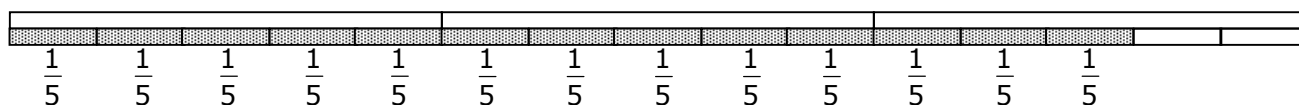   Write another expression that represents the shaded part of the model.

4. The model below is shaded to represent a fraction greater than 1.

   Complete the following to make a true statement.

   $\dfrac{9}{4}$ = _____ + _____ + _____ because 9 sections are shaded and each figure in the model is divided into 4 equal sections.

5. The shaded part of the model below represents the pounds of crickets a pet store feeds to the small reptiles in the store during each week.

   | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ |

   Explain why $\dfrac{16}{5}$ does **NOT** represent the pounds of crickets the pet store feeds to the small reptiles.

NAME_____   DATE_____   SCORE ____/5

4.3B Skills and Concepts 3

1. Draw and label 3 different strip diagrams to represent $\dfrac{7}{4}$ as a sum of fractions with the same denominator and record the results with symbolic representation.

   Are there more ways to represent $\dfrac{7}{4}$ as a sum of fractions with the same denominator and record the results with symbolic representation? _____ Explain your answer.

2. Draw and label 3 different strip diagrams to represent $\dfrac{12}{7}$ as a sum of fractions with the same denominator and record the results with symbolic representation.

3. Draw and label 3 different strip diagrams to represent $\dfrac{9}{6}$ as a sum of fractions with the same denominator and record the results with symbolic representation.

4. Draw and label 3 different strip diagrams to represent $\dfrac{15}{11}$ as a sum of fractions with the same denominator and record the results with symbolic representation.

5. Draw and label 3 different strip diagrams to represent $\dfrac{17}{10}$ as a sum of fractions with the same denominator and record the results with symbolic representation.

   Are there more ways to represent $\dfrac{17}{10}$ as a sum of fractions with the same denominator and record the results with symbolic representation? _____
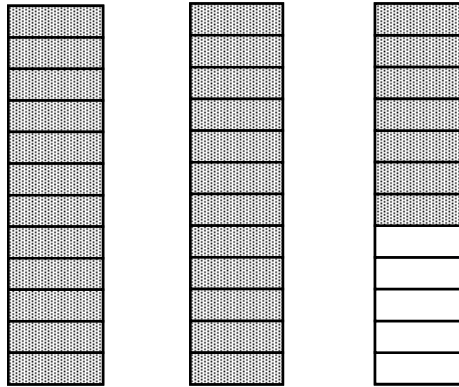   Explain your answer.

NAME_____ DATE_____ SCORE ____/5

4.3B Skills and Concepts 4

1. The shaded part of the model shown below represents a fraction greater than 1.

   Explain why $\dfrac{7}{12}$ does **NOT** represent the shaded part of the model.

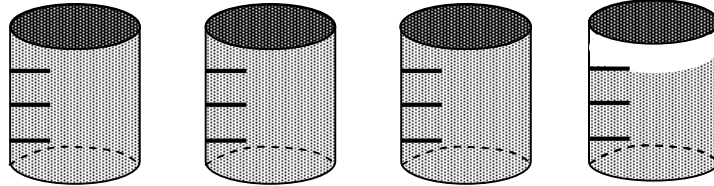   Write an expression that does represent the shaded part of the model.

   Explain why the expression you wrote represents the shaded part of the model.

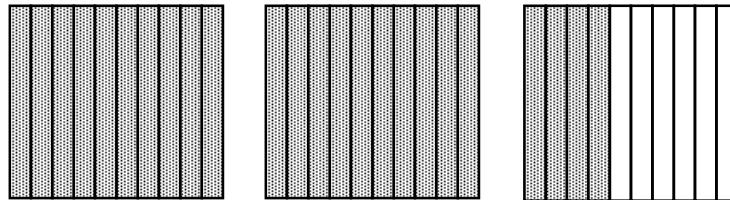2. The shaded part of the model shown below represents a fraction greater than 1.

   Explain why the expression $\dfrac{8}{8} + \dfrac{8}{8} + \dfrac{1}{8} + \dfrac{1}{8}$ represents the shaded part of the model.

3. Grape jelly is put into 4 different jars. The shaded part of the model represents the amounts of jelly in the jars.
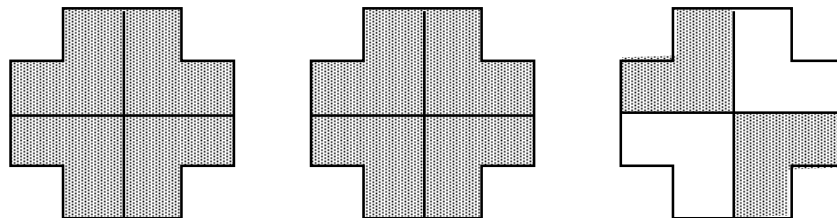
Explain why the expression $1 + 1 + 1 + \dfrac{1}{4}$ does **NOT** represent the amount of grape jelly in the 4 jars.

4. The shaded part of this model represents a fraction greater than 1.

Explain why $2 + \dfrac{1}{10} + \dfrac{1}{10} + \dfrac{1}{10} + \dfrac{1}{10} = 2\dfrac{4}{10}$ represents the shaded part of the model.
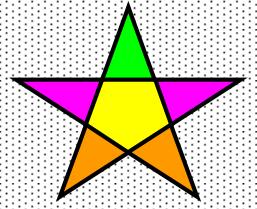
5. The model below is shaded to represent a fraction greater than 1.
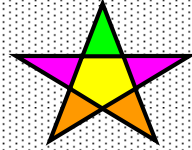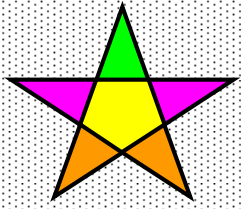
Complete the following to make a true statement.

$\dfrac{4}{4} + \dfrac{4}{4} + \dfrac{2}{4}$ represents the shaded part of the model because _____ sections are

shaded and each figure has _____ equal sections.

TEKSING TOWARD STAAR

MATHEMATICS

GRADE 4
Open-Ended
Skills and Concepts

TEKS CATEGORY 3
Computations
and
Algebraic Relationships

NAME_____   DATE_____   SCORE ____/5

4.5C Skills and Concepts 1

1. Use a ruler on the Reference Materials to measure the length of the label in centimeters.

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┌─────────────────────────────────────────┐
│            CHEESY PASTA                   │
└─────────────────────────────────────────┘
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• The ruler is numbered in _____.

  The marks between each number show spaces that have a length of ____ millimeter

  Each centimeter equals _____ millimeters.

• The 0-centimeter mark on the ruler is placed at the _____ end of the label.

• The right end of the label aligns with the mark on the ruler that is _____ marks to

  the right of the _____, between _____ centimeters and _____ centimeters.

• To the nearest whole centimeter, the label is _____ centimeters long.

Find the perimeter of the label.

• A _____ can be used to find the perimeter of a rectangle.

  P_____ (rectangle) is l_____ + w_____ + l_____ + w_____
  This formula can be used to find the perimeter of the label.

$$P = l + \text{\_\_\_} + l + \text{\_\_\_}$$

$$P = \text{\_\_\_} + \text{\_\_\_} + \text{\_\_\_} + \text{\_\_\_} = \text{\_\_\_\_}$$

  Using this formula, the perimeter of the label is _____ centimeters.

• Another _____ can also be used to find the perimeter of a rectangle.

  P_____ (rectangle) is ____ times $l$ength + 2 times _____

  This formula can also be used to find the _____ of the label.

$$P = (2\text{\_\_\_}) + (\text{\_\_\_}w)$$

$$P = (\text{\_\_\_} \times \text{\_\_\_}) + (\text{\_\_\_} \times \text{\_\_\_})$$

$$P = \text{\_\_\_\_} + \text{\_\_\_\_}$$

$$P = \text{\_\_\_\_}$$

  Using this formula, the perimeter of the label is _____ centimeters.

  So, using either formula, the _____ of the label is _____ centimeters.

2. Find the perimeter of a square with a side that is 7 inches long.
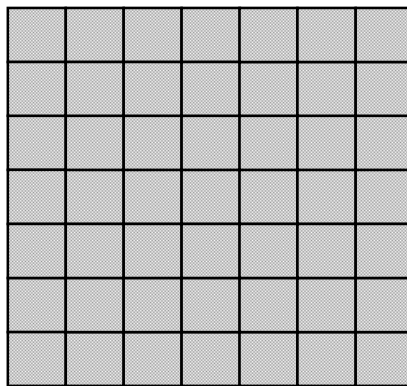
- The perimeter of the square is the _____ of the lengths of all its _____.

    _____ + _____ + _____ + _____ = _____

    The perimeter of the square is _____ inches.

- A square is a special _____.

    All four of a square's sides are the same _____.

- A _____ can be used to find the perimeter of a square.

    Perimeter (square) is _____ times length of a **s**ide

    P = ___ s

    Use the formula to find the perimeter.

    P = 4s

    P = _____ × _____

    P = _____

    The perimeter of the square is _____ inches.

3. Find the perimeter of a rectangle with a length of 9 centimeters and a width of 4 centimeters.
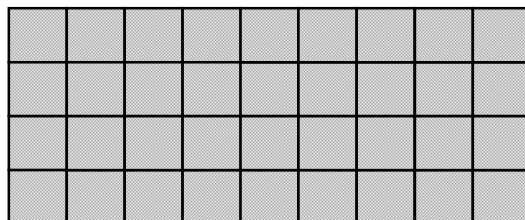
- The perimeter of the rectangle is the _____ of the _____ of all its sides.

    _____ + _____ + _____ + _____ = _____

    The perimeter of the rectangle is _____ centimeters.

- In a rectangle, opposite sides are the same _____.

• A _____ can be used to find the perimeter of a rectangle.

*P*_____ (rectangle) is *l*_____ + *w*_____ + *l*_____ + *w*_____

This formula can be used to find the perimeter of the rectangle.

$$P = l + \_\_\_ + l + \_\_\_$$

$$P = \_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ = \_\_\_\_$$

Using this formula, the perimeter of the rectangle is _____ centimeters.

• Another _____ can also be used to find the perimeter of a rectangle.

*P*_____ (rectangle) is ____ times *l*ength + 2 times _____

This formula can also be used to find the _____ of the rectangle.

$$P = (2\_\_\_) + (\_\_\_w)$$

$$P = (\_\_\_ \times \_\_\_) + (\_\_\_ \times \_\_\_)$$

$$P = \_\_\_\_ + \_\_\_\_$$

$$P = \_\_\_\_$$

Using this formula, the perimeter of the rectangle is _____ centimeters.

So, using either formula, the perimeter of the _____ is _____ cm.

4. Find the area of a square with a side that is 7 inches long.
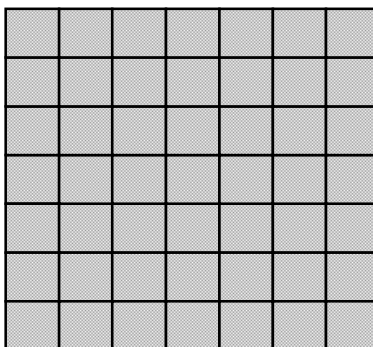
• The area of a square can be found by counting.

The area of the square is _____ square inches

• A square is a special _____.

• All four of a square's sides are the same _____.

• A _____ can be used to find the area of a square.

*A*rea (square) is length of *s*ide times length of *s*ide.

$$A = s \times s$$

Use the formula to find the area of the square.

$$A = s \times s$$

$$A = \_\_\_\_\_ \times \_\_\_\_\_$$

$$A = \_\_\_\_\_$$

The area of the square is _____ square _____.

5. Find the area of a rectangle with a length of 9 centimeters and a width of 4
    centimeters.
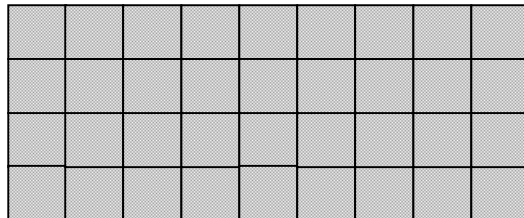
*   • The area of the rectangle can be found by counting.

    The area of the rectangle is _____ square centimeters.

*   • In a rectangle, _____ sides are the same _____.
    A formula can be used to find the area of a rectangle.

                    Area (rectangle) is **l**ength times **w**idth
$$A = l \times w$$

*   • Use the formula for the area of a rectangle.

$$A = l \times w$$
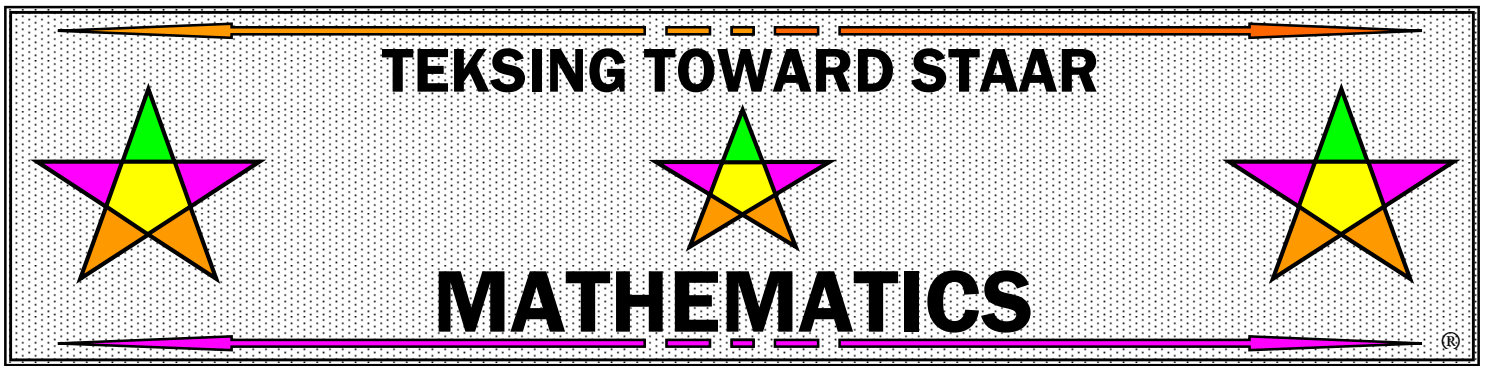$$A = \underline{\quad\quad} \times \underline{\quad\quad}$$
$$A = \underline{\quad\quad}$$

The area of the rectangle is _____ square _____.

TEKSING TOWARD STAAR

MATHEMATICS

GRADE 4
Open-Ended
Skills and Concepts

TEKS CATEGORY 4
Geometry
and
Measurement

NAME_____   DATE_____   SCORE ____/5

4.8A Skills and Concepts 1

1. Jonathan needs to decide which unit of capacity he will use to measure each of the following items. He can choose from cup, quart, gallon, liter, or milliliter. Write the unit of capacity he should use to measure each item on the line before the item.

    • _____ water in a swimming pool
      Explain why you chose this unit.

    • _____ cough medicine
      Explain why you chose this unit.

    • _____ soupspoon
      Explain why you chose this unit.

    • _____ picnic jug
      Explain why you chose this unit.

2. Is 2 quarts or 25 gallons a more reasonable capacity of a bathtub?

    Since 2 quarts is the same as a _____ of a gallon, think about the amount of liquid in a half-gallon of milk.
    This would not be enough to fill a bathtub. You would need much more.
    A more reasonable measure of the capacity of a bathtub would be 25 _____.

3. Is 2 milliliters or 2 liters a more reasonable capacity of a family size bottle of cola?

    Think about the capacity of an eyedropper. The capacity of an eyedropper is about 1 milliliter.

    Two eyedroppers of cola would not be enough for a family. You would need much more.

    A more reasonable capacity of a family size bottle of cola would be 2 _____.

4. Is 1 cup or 1 quart a more reasonable amount of yogurt in a single serving container?

    Think about the capacity of 1 quart. There are _____ cups in 1 quart. That would be way too much yogurt to fill a single serving container.

    Think about the capacity of 1 cup.

    A more reasonable amount of yogurt in a single serving container is 1 _____.

5. Is 3 pints or 6 gallons a more reasonable capacity of a kitchen sink?

    Since _____ pints is the same as _____ quart and _____ quarts is the same

    as 1 gallon, then 8 pints is the same as one gallon. One-half of a gallon is _____

    pints, so 3 pints is less than one-half of a _____. It would take more than one-half of a gallon to fill a kitchen sink.

    A more reasonable capacity of a kitchen sink is _____.

NAME_____   DATE_____   SCORE ____/5

4.8A Skills and Concepts 2

1. What is the most reasonable measure of the weight of a basket of fruit – 10 ounces, 10 pounds, or 10 tons?

   • 10 ounces would be about the weight of _____ slices of bread.

   • 10 tons would be about the weight of _____ subcompact cars.

   The most reasonable measure for the weight of the fruit basket is 10 _____

   because _____

   _____.

2. What is the most reasonable measure of the mass of a bicycle built for two – 16 grams or 16 kilograms?

   • The mass of a shoestring is 1 gram. 16 shoestrings would have a mass of about

       _____ grams.

   • It makes sense that a bicycle built for two might have a mass of 1,000 times the

       mass of _____ shoestrings.

   The most reasonable measure for the mass of a bicycle built for two is 16 _____

   because _____

   _____.

3. What is the most reasonable measure of the weight of a horse – 1 pound or 1 ton?

   • The weight of a loaf of bread is about 1 _____. This is _____
   reasonable for the weight of a horse.

   The most reasonable measure for the weight of a horse is about 1 _____

   because _____

   _____.

4. Write the customary unit that would be most reasonable to measure the following items. Choose ounce, pound, or ton. Write the most reasonable unit of measure on the line.

   • _____ weight of a handful of flour

   • _____ weight of a truck

   • _____ weight of a turkey

   • _____ weight of a tennis shoe

   • _____ weight of an empty wallet

5. Write the metric unit that would be most reasonable to measure the following items. Choose gram or kilogram. Write the most reasonable unit of measure on the line.

   • _____ mass of a coin

   • _____ mass of an airplane

   • _____ mass of a bag of dog food

   • _____ mass of a soup spoon

   • _____ mass of a ring for your finger

NAME_____   DATE_____   SCORE ____/5

4.8A Skills and Concepts 3

1. Record which metric measure should be used to measure each object - millimeter, centimeter, meter, or kilometer.

   • Thickness of a math book _____

   • Length of a swimming pool _____

   Record which customary measure should be used to measure each object - inch, foot, yard, or mile.

   • Length of a key _____

   • Height of a room _____

2. Mrs. Tindall bought 1 container of cream to make whipped cream for a pie. What is the best estimate of the amount of cream she bought? Circle your answer.

        1 milliliter   1 ounce   1 pint   1 liter

   • Explain the strategy you used to find the answer.

3. Which measurement best describes the capacity of a can of cherries used to make a pie? Circle your answer.

        2 liters   2 cups   2 quarts   2 ounces

   • Explain the strategy you used to find the answer.

4. Write the customary unit that would be most reasonable to measure each item. Choose ounce, pound, or ton.

   • Weight of a walk-behind lawnmower _____

   • Weight of a mountain bike _____

   • Weight of an airplane _____

5. Write the metric unit that would be most reasonable to measure each item. Choose gram or kilogram.

   • Mass of a brick lawnmower _____

   • Mass of a spoonful of sugar lawnmower _____

   • Mass of a school lawnmower _____

NAME_____   DATE_____   SCORE ____/5

4.8A Skills and Concepts 4

1. Record which customary measure should be used to measure each object - inch, feet, or yards.

    • Thickness of a math book _____

    • Length of a swimming pool _____

    Record which metric measure should be used to measure each object - millimeter, centimeter, meter, or kilometer.

    • Length of a key _____

    • Height of a room _____

2. Teresa bought a single serving container of yogurt. What is the best estimate for the amount of yogurt she bought? Circle your answer.

         1 cup   1 ounce   1 pint   1 gallon

    • Explain the strategy you used to find the answer.

3. Which measurement best describes the capacity of a can of green beans? Circle your answer.

         2 liters   2 cups   2 quarts   2 ounces

    • Explain the strategy you used to find the answer.

4. Write the metric unit that would be most reasonable to measure each item. Choose gram or kilogram.

    • Mass of a walk-behind lawnmower _____

    • Mass of a mountain bike _____
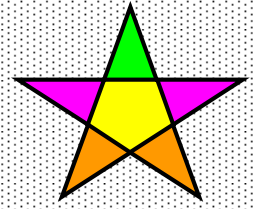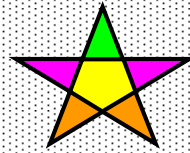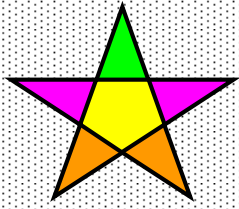
    • Mass of an airplane _____

5. Write the customary unit that would be most reasonable to measure each item. Choose ounce, pound, or ton.

    • Weight of a brick _____

    • Weight of a spoonful of sugar _____

    • Weight of a car _____

TEKSING TOWARD STAAR
MATHEMATICS

GRADE 4
Open-Ended Skills and Concepts

TEKS CATEGORY 5
Data Analysis

NAME_____   DATE_____   SCORE ____/5

4.9A Skills and Concepts 1

1. Tamika kept a record of the number of minutes she read a book during a 15-day period.

Reading Record Minutes				
60	30	60	120	30
30	60	90	30	120
120	90	30	60	90

Use the data in the Reading Record to make a frequency table.

*   **Title the table.**
    A title for this table is "_____".
*   **Decide how many columns are needed to represent the data.**
    _____ columns are needed to represent this data.
*   **Put a label at the top of each column in the table.**

    Column labels for this table are "_____" and "_____".
*   **Record the data.**

How would the data in the frequency table change if Tamika recorded the number of minutes she read a book during a 20-day period instead of a 15-day period?

2. Sean is training to run at a track meet. He recorded the number of miles he ran on different days. Then he created a dot plot to represent the data.

Number of Miles				
4.1	4.3	4.2	4.6	4.2
4.4	4.6	4.4	4.2	4.3
4.2	4.4	4.5	4.1	4.8
4.3	4.2	4.4	4.6	4.4

Number of Miles
(in miles)
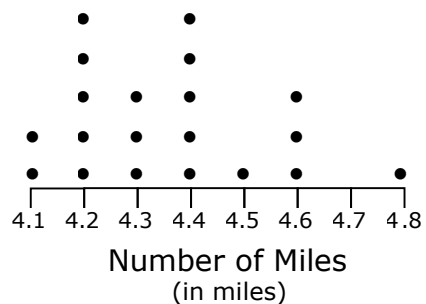
• Explain why the numbers are written in order on the number line for the dot plot.

• Explain what the numbers under the number line represent.

• What does each dot above the number 4.2 represent? _____
  Explain how you know your answer is correct.

• What does the total number of dots above the number 4.5 represent? _____
  Explain how you know your answer is correct.

• Explain why you think the data table or the dot plot is easier to read.

3. The data shown below represents the heights of students in Juan's class.

Height of Students (in inches)				
58	63	55	60	57
62	61	54	48	50
55	60	49	56	52

Juan has decided to create a stem-and-leaf plot to represent the heights.

How many leaves will he put in the stem-and-leaf plot? _____
Explain how you know your answer is correct.

4. Brittney's softball coach recorded the amount of time she practiced batting every day for one month. He put the data in a frequency table.

Batting Practice Time	
Time (hour)	Number of Times
$\frac{1}{6}$	2
$\frac{1}{4}$	4
$\frac{1}{2}$	8
$\frac{4}{6}$	9
$\frac{3}{4}$	8

• For what part of an hour did Brittney practice batting the most times? _____
Explain how you know your answer is correct.

• Did Brittney spend more days practicing batting more than $\frac{1}{2}$ hour or less than $\frac{1}{2}$ hour? _____ Explain how you know your answer is correct.

• Which two parts of an hour did Brittney practice the least amount of times?

_____ hour and _____ hour   Explain how you know your answer is correct.

5. Keith surveyed the students in his class to find the number of siblings each of them has. The data is shown below.

Number of Siblings				
0	2	0	0	1
0	1	1	0	4
4	3	1	2	2
3	1	1	2	2

Keith wants to make a dot plot to represent the data.
What data points will be labeled below the number line in the dot plot? _____
Explain how you know your answer is correct.

NAME_____ DATE_____ SCORE ____/5

4.9A Skills and Concepts 2

1. Kendrick kept a record of the part of an hour he spent recording data for his science fair project during 10 days.

Time Spent Recording Data (in part of 1 hour)				
1	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{2}$
$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{4}$

Use the data in the chart to make a frequency table.

• **Title the table.**
A title for this table is "_____".

• **Decide how many columns are needed to represent the data.**

_____ columns are needed to represent this data.

• **Put a label at the top of each column in the table.**

Column labels for this table are "_____" and "_____".

• **Record the data.**

Explain how you know your frequency table is correct.

2. The chart below represents the fraction of a whole pizza Yasmin's friends ate at a party. She has decided to make a dot plot to represent the data.

Fraction of a Whole Pizza Eaten				
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{3}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{8}$

Yasmin will follow these steps to make her dot plot.
• Draw a number line.

What will be the beginning number on the number line? _____

What will be the ending number on the number line? _____

Where will $\frac{1}{4}$ be located on the number line? _____

• Draw dots above the number line to represent the data.

What will be the number of dots above $\frac{1}{8}$ on the number line? _____

What will be the number of dots above $\frac{1}{4}$ on the number line? _____

What will be the number of dots above $\frac{3}{8}$ on the number line? _____

• After all the data is recorded, title the dot plot.

What will be a good title for Yasmin's dot plot? _____

3. Lucas recorded the high temperature each day for eight days. He used the data to create the stem-and-leaf plot shown below.

High Temperature

Stem	Leaves
7	9
8	4 8 9
9	1 2 5 5

Complete the table to show the data represented by the stem-and-leaf plot.

High Temperatures (°F)							

Explain how you know the data you recorded in the table is correct.

4. The school librarian recorded the number of books checked out each day for two weeks. She is making a stem-and-leaf plot to display the data.

Number of Books Checked Out				
88	87	94	70	83
90	74	75	85	94

Make a key for the stem-and-leaf plot the librarian is making.

Explain how you know your key is correct.

5. Students in Juanita's class kept a record of the number of different types of birds each of them saw during recess. The data is shown below.

Number of Birds								
3	5	1	2	1	7	3	5	3

Juanita wants to make a dot plot to represent the data.

How many dots will she place above the number 5? _____
Explain how you know your answer is correct.

NAME_____   DATE_____   SCORE ____/5

4.9A Skills and Concepts 3

1. Hector runs in a race every Saturday. He recorded the number of miles he ran on sixteen Saturdays.

Race Distances (in miles)			
12	8	8	7
8	7	15	8
12	8	15	8
7	15	12	15

Use the data to make a frequency table.

- **Title the table.**
  A title for this table is "_____".

- **Decide how many columns are needed to represent the data.**

  _____ columns are needed to represent this data.
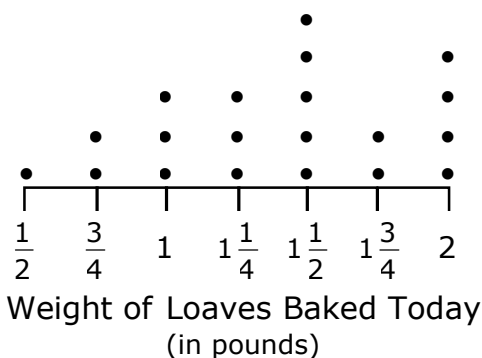
- **Put a label at the top of each column in the table.**
  Column labels for this table are "_____" and "_____".

- **Record the data.**

Explain how you know your frequency table is correct.

2. A baker recorded the weight of each loaf of bread he baked today, then he used the data to make a dot plot.

Weight of Loaves Baked Today
(in pounds)

- How many loaves of bread did the baker bake today? _____ pounds
  Explain how you know your answer is correct.

- What weight did the baker record for 5 of the loaves of baked bread? _____ pounds
  Explain how you know your answer is correct.

- What weight did the baker record for 1 loaf of bread? _____ pounds
  Explain how you know your answer is correct.

- What weights did the baker record for 2 loaves of bread? _____ lbs and _____ lbs

3. The chart below represents the number of glasses of orange juice ordered at the Texas Café during breakfast on 15 different days.

Glasses of Orange Juice Ordered				
21	42	36	21	35
17	35	41	22	19
40	35	34	21	22

A waitress wants to make a stem-and-leaf plot to represent this data.

How many stems will she need in the stem-and-leaf plot? _____
Explain how you know your answer is correct.

4. The chart below represents the fraction of a whole pie ten different cousins ate at a family reunion.
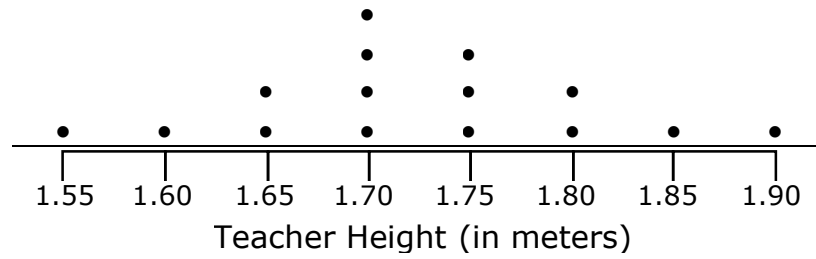
Fraction of a Whole Pie Eaten				
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{3}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{8}$

Kelsey has decided to make a frequency table to represent the data.

What number will she put in the frequency column for $\frac{1}{8}$? _____

Explain how you know your answer is correct.

5. Zeva measured the height of teachers at her school in meters. The dot plot below represents the heights.

Teacher Height (in meters)

How many of the teachers measured 1.70 meters tall? _____
Explain how you know your answer is correct.

NAME_____   DATE_____   SCORE ____/5

4.9A Skills and Concepts 4

1. Neva decided to record the number of text messages she receives each day. Her data is shown below.

Number of Text Messages Sent Each Day				
31	19	17	19	23
25	31	16	14	31
32	37	15	23	28

Neva has decided to represent her data in a dot plot.
How many dots will she place above the number 25? _____
Explain hwo you know your answer is correct.

2. A school nurse measured the height of a class of fourth grade students. The table shows the data from her measurements.

Fourth Grade Students	
Height (in inches)	Number of Students
53.5	3
54	3
54.5	4
55	5
55.5	3
56	2
56.5	2

*   Explain what the nurse needs to do to create a dot plot to represent the data.

*   How many numbers will she have to put on the number line for her dot plot? _____
    Explain why your answer is correct.

*   What is the least number she will put on the number line for her dot plot? _____
    Explain why this is the least number she will put on the number line.

• What is the greatest number she will put on the number line for her dot plot? _____
  Explain why this is the greatest number she will put on the number line.

3. Hilda recorded the number of free throws made during the basketball season by each
    member of her team. She used the data to create the stem-and-leaf plot shown.

Number of Free Throws

Stem	Leaves
1	0 2 4 4 5
2	4 7
3	5 6 9
4	0 0 7 9

Key: 1 │ 0 represents 10 free throws

What is the number of free throws made by the player with the greatest number of

free throws? _____   Explain hwo you know your answer is correct.

4. Evie is training to ride in a bicycle race. She recorded the number of miles she
    rode her bicycle each day she trained.

Bicycle Miles Each Day				
13	12	10	8	12
9	12	13	10	8
9	8	13	10	13
12	9	10	9	12

Use the data in the chart to make a frequency table.
  • **Title the table.**
  • **Decide how many columns are needed to represent the data.**
  • **Put a label at the top of each column in the table.**
  • **Record the data.**

Explain how you know your frequency table is correct.

5. The chart below represents the shoe size of fourth grade students.

Fourth Grade Student Shoe Sizes				
4	$5\frac{1}{2}$	4	$3\frac{1}{2}$	$5\frac{1}{2}$
$3\frac{1}{2}$	$2\frac{1}{2}$	3	$5\frac{1}{2}$	$2\frac{1}{2}$

Elissa has decided to make a dot plot to represent the data.

What numbers ill Elissa put on the number line in the dot plot?
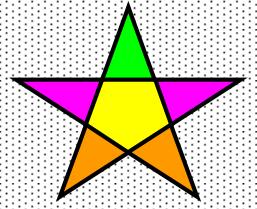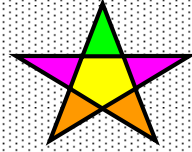
Explain how you know your answer is correct.
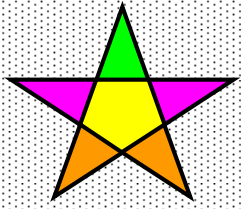
What number will have 3 dots above it in a dot plot? _____
Explain how you know your answer is correct.

What numbers will have 2 dots above them in a dot plot? _____, _____, and _____
Explain how you know your answer is correct.

TEKSING TOWARD STAAR

MATHEMATICS

GRADE 4
Open-Ended Skills and Concepts

TEKS CATEGORY 6
Personal Financial Literacy

4.10E Skills and Concepts 1

1. Complete the following to make true statements about a bank.

    A bank will pay _____ on a savings account.

    A bank is a safe place to keep your _____.

    A bank will charge _____ on a loan.

    A bank can _____ and _____ money.

2. Victor's savings account earns $3.50 in interest for every $100 in his account. If he has $300 in the account, how much interest will he earn? Show your work.

    Victor will earn $_____ in interest if he has $300 in his account.

3. Lealys borrowed $600 from her bank. The interest is $4 for every $100 she borrowed. What is the total amount Lealys will pay back to the bank for the loan? Show your work.

    The total amount Lealys will pay back to the bank for the loan is $_____.

4. Angie's savings account pays her $1.15 for every $100 in her account. Angie has $1,000 in her account. What is the amount of interest she will be paid? Show your work.

    Angie will be paid $_____ interest.

5. Nate borrowed $1,200 at an electronics store to buy a new computer. The interest rate for the loan is $3.50 for every $100 he borrowed. What is the total amount Nate must pay the electronics store for the loan, including interest? Show your work.

    Nate must pay the electronics store a total amount of $_____ for the loan, including interest.

4.10E Skills and Concepts 2

1. Ernesto's bank loaned him $2,000. His total interest payment will be $100. How much is the interest payment for every $100 he borrowed? Show your work.

   The interest payment for every $100 he borrowed is $_____.

2. Beau borrowed $6,000 from his bank. His interest rate is $6 for every $100 he borrowed. What is the amount he will pay in interest for the loan? Show your work.

   Beau will pay $_____ in interest for the loan.

3. Lainie has a savings account. The bank pay her interest of $2.35 per $100 she has in her account. Lainie has $500 in her account. What is the amount of interest she will be paid from the bank? Show your work.

   Lainie will be paid $_____ in interest from the bank.

4. Complete the following to make true statements aout financial institutions.

   Financial institutions borrow _____.

   Financial institutions to issue _____ cards.

   Financial institutions loan _____ to customers.

   Financial institutions are places where people can keep their _____ safe.

5. Steve wants to save his money to buy a new computer that costs $800. What are some advantages of Steve putting his money into a savings account at a financial institution rather than keeping his money at home?