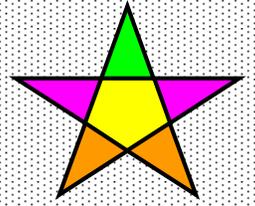
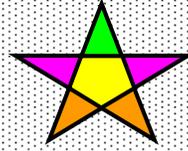
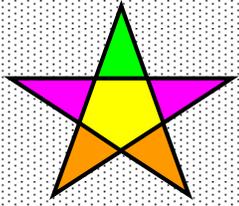


TEKSING TOWARD STAAR



MATHEMATICS

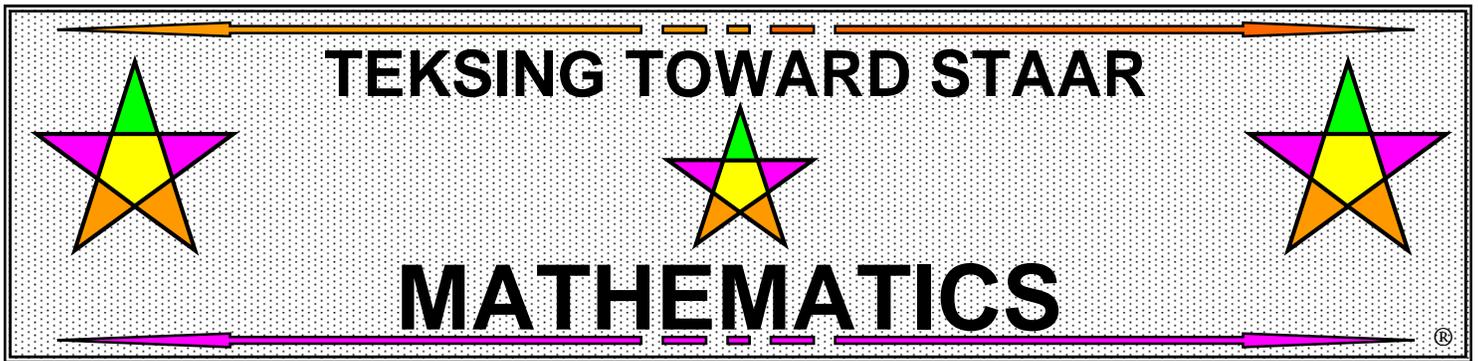
GRADE 3

STAAR Format

Open-Ended

Skills and Concepts

**Organized by
TEKS Categories**



OVERVIEW

Grade 3 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.

**TEKSING TOWARD STAAR
GRADE 3 OPEN-ENDED SKILLS AND CONCEPTS
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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 Standard	TEKS	STUDENT EXPECTATION
Incorporated into 1-4	3.1(A)	apply mathematics to problems arising in everyday life, society, and the workplace
Incorporated into 1-4	3.1(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
Incorporated into 1-4	3.1(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
Incorporated into 1-4	3.1(D)	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate
Incorporated into 1-4	3.1(E)	create and use representations to organize, record, and communicate mathematical ideas
Incorporated into 1-4	3.1(F)	analyze mathematical relationships to connect and communicate mathematical ideas
Incorporated into 1-4	3.1(G)	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication

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GRADE 3 OPEN-ENDED SKILLS AND CONCEPTS
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TEKS Category 2: Number and Operations

(3.2) Number and Operations

The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value.

STAAR Standard	TEKS	STUDENT EXPECTATION
Readiness	3.2(A)	compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate
Supporting	3.2(B)	describe the mathematical relationships found in the base-10 place value system through the hundred thousands place
Supporting	3.2(C)	represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers
Readiness	3.2(D)	compare and order whole numbers up to 100,000 and represent comparisons using the symbols $>$, $<$, or $=$

(3.3) Number and Operations

The student applies mathematical process standards to represent and explain fractional units.

STAAR Standard	TEKS	STUDENT EXPECTATION
Supporting	3.3(A)	represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines
Supporting	3.3(B)	determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line
Supporting	3.3(C)	explain that the unit fraction $1/b$ represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number
Supporting	3.3(D)	compose and decompose a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts $1/b$
Supporting	3.3(E)	solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8
Readiness	3.3(F)	represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines
Supporting	3.3(G)	explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model
Readiness	3.3(H)	compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models

**TEKSING TOWARD STAAR
GRADE 3 OPEN-ENDED SKILLS AND CONCEPTS
Table of Contents**

TEKS Category 2: Number and Operations

(3.4) Number and Operations

The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy.

STAAR Standard	TEKS	STUDENT EXPECTATION
Readiness	3.4(A)	solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction
Supporting	3.4(B)	round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems
Supporting	3.4(C)	determine the value of a collection of coins and bills
Supporting	3.4(D)	determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10
Supporting	3.4(E)	represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting
Supporting	3.4(F)	recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts
Supporting	3.4(G)	use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties
Supporting	3.4(H)	determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally
Supporting	3.4(I)	determine if a number is even or odd using divisibility rules
Supporting	3.4(J)	determine a quotient using the relationship between multiplication and division
Readiness	3.4(K)	solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts

**TEKSING TOWARD STAAR
GRADE 3 OPEN-ENDED SKILLS AND CONCEPTS
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TEKS Category 3: Algebraic Reasoning

(3.5) Algebraic Reasoning

The student applies mathematical process standards to analyze and create patterns and relationships.

STAAR Standard	TEKS	STUDENT EXPECTATION
Readiness	3.5(A)	represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations
Readiness	3.5(B)	represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations
Supporting	3.5(C)	describe a multiplication expression as a comparison such as 3×24 represents 3 times as much as 24
Supporting	3.5(D)	determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product
Readiness	3.5(E)	represent real-world relationships using number pairs in a table and verbal descriptions

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GRADE 3 OPEN-ENDED SKILLS AND CONCEPTS
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TEKS Category 4: Geometry and Measurement

(3.6) Geometry and Measurement

The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties.

STAAR Standard	TEKS	STUDENT EXPECTATION
Readiness	3.6(A)	classify and sort two- and three-dimensional solids, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language
Supporting	3.6(B)	use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories
Readiness	3.6(C)	determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row
Supporting	3.6(D)	decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area
Supporting	3.6(E)	decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape

(3.7) Geometry and Measurement

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

STAAR Standard	TEKS	STUDENT EXPECTATION
Supporting	3.7(A)	represent fractions of halves, fourths, and eighths as distances from zero on a number line.
Readiness	3.7(B)	determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems
Supporting	3.7(C)	determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes
Supporting	3.7(D)	determine when it is appropriate to use measurements of liquid volume (capacity) or weight
Supporting	3.7(E)	determine liquid volume (capacity) or weight using appropriate units and tools

**TEKSING TOWARD STAAR
GRADE 3 OPEN-ENDED SKILLS AND CONCEPTS
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TEKS Category 5: Data Analysis

(3.8) Data Analysis

The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data.

STAAR Standard	TEKS	STUDENT EXPECTATION
Readiness	3.8(A)	summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals
Supporting	3.8(B)	solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals

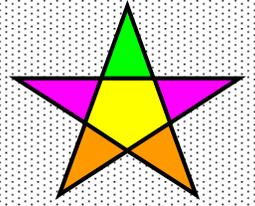
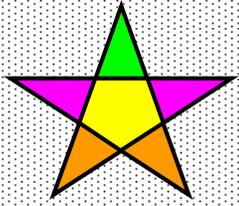
TEKS Category 6: Personal Financial Literacy

(3.9) Personal Financial Literacy

The student applies mathematical processes standards to manage one's financial resources effectively for lifetime financial security.

STAAR Standard	TEKS	STUDENT EXPECTATION
Supporting	3.9(A)	explain the connection between human capital/labor and income
Supporting	3.9(B)	describe the relationship between the availability or scarcity of resources and how that impacts cost
Not Tested	3.9(C)	identify the costs and benefits of planned and unplanned spending decisions
Supporting	3.9(D)	explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest
Supporting	3.9(E)	list reasons to save and explain the benefit of a savings plan, including for college
Not Tested	3.9(F)	identify decisions involving income, spending, saving, credit, and charitable giving

TEKSING TOWARD STAAR



MATHEMATICS

GRADE 3

Open-Ended

Skills and Concepts

TEKS CATEGORY 1

Mathematical Process Standards

NAME _____

DATE _____

SCORE ___/10

3.1B Skills and Concepts 1**3.2A**

1. Which number has the same value as the 4 in 84,095? _____

3.2B

2. Guadalupe Peak is 8,751 feet above sea level. This is the highest point in Texas.

What is the number of hundreds in 8,751? _____

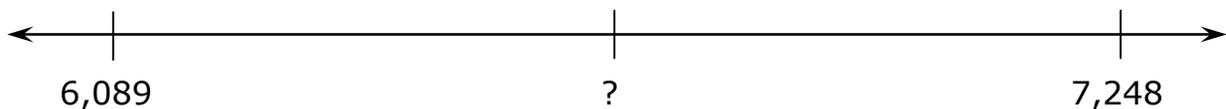
3.2C

3. A game preserve has 3,475 buffalo. Between which two thousands is this number located on a number line?

_____ and _____

3.2D

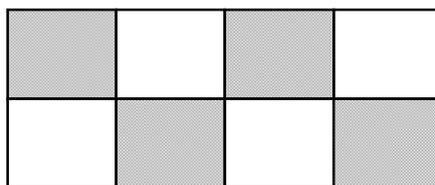
4. Donnie wrote these numbers on a number line.



What number could be written below the center mark on the number line? _____

3.3A

5. Claudia is making a memory quilt from some of her favorite clothes she saved as she outgrew them. She will cut squares from old jeans for the shaded squares in the pattern.



What fraction names the part of the quilt that will be made of old jeans? _____

Write the name of the fraction in words. _____

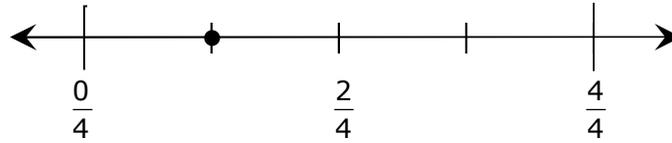
NAME _____

DATE _____

SCORE ___/10

3.1B Skills and Concepts 2**3.3B**

1. The point on the number line represents the distance a running back ran down the field in the final play of a football game.



What fraction represents the distance the player ran down the field? _____
Explain how you know your answer is correct.

3.3C

2. Olivia bought a block of dark chocolate and a block of white chocolate. She cut each block into eight equal pieces. She used one piece, or $\frac{1}{8}$, of each block of chocolate to make a dessert. How many pieces of the blocks of chocolate does she have left altogether? _____ Explain how you know your answer is correct.

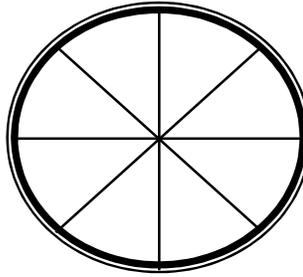
3.3D

3. Ramon rides his bicycle $\frac{3}{8}$ mile to the city library. Write an expression to represent $\frac{3}{8}$ as the sum of unit fractions.

Explain how you know the expression you wrote is correct.

3.3E

4. Alex and Will decided to share a small pizza. The pizza was divided into 8 equal pieces. Alex ate $\frac{4}{8}$ of the pizza and Will ate $\frac{3}{8}$ of the pizza.

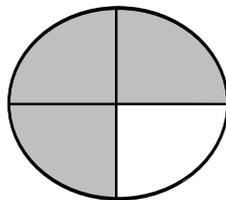


Write an expression using unit fractions to represent how much of the pizza the boys ate together.

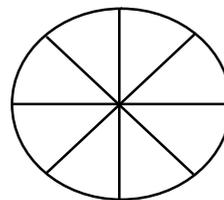
Explain how you know the expression you wrote is correct.

3.3F

5. Ava shaded Circle A to represent a fraction. Now she will shade Circle B.



Circle A



Circle B

What fraction of Circle B should Ava shade to represent a fraction that is equivalent to the fraction she represented in Circle A? _____

Explain how you know your answer is correct.

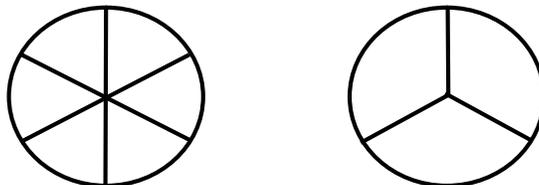
NAME _____

DATE _____

SCORE ___/10

3.1B Skills and Concepts 3**3.3G**

1. Jay cut his mini pizza into six equal slices and ate two slices. Dawn cut her mini pizza into three equal slices and ate one slice.



Shade the model on the left to represent the amount of his pizza Jay ate.
Shade the model on the right to represent the amount of her pizza Dawn ate.

The shaded parts of the models show $\frac{\quad}{\quad} = \frac{\quad}{\quad}$.

The unshaded parts of the models show $\frac{\quad}{\quad} = \frac{\quad}{\quad}$.

3.3H

2. A comparison of two fractions is represented below. Record $>$, $<$ or $=$ in the \bullet to make this comparison a true statement.

$$\frac{3}{4} \bullet \frac{3}{4}$$

Explain why the symbol you chose makes this a true statement.

3.4A

3. A cell phone company sold 492 cell phones to customers in January and 267 cell phones to customers in February.

_____ is the difference between the numbers of cell phones sold in these two months.

3.4B

4. Sean had \$154 in cash. Then he earned \$139 mowing lawns. He decided to put all of his money in a savings account at the bank.

To the nearest ten dollars, Sean put about _____ in the savings account.

3.4C

5. Layton only has quarters in his pocket. He has less than \$1.00.

Layton has _____ in his pocket.

NAME _____

DATE _____

SCORE ___/10

3.1B Skills and Concepts 4**3.4D**

1. Each box of crayons holds 8 crayons. Roberto has 4 boxes of crayons.

The equation _____ \times _____ = _____ represents the number of crayons Roberto has in all. Explain how you know this equation is correct.

3.4E

2. Mrs. Chang made bookmarks for 8 people in her book club. She made 4 bookmarks for each person.

What is the number of bookmarks Mrs. Chang made? _____ Explain why your answer is correct.

3.4F

3. Evan has 32 oranges. He puts the same number of oranges in each of 4 baskets. What is the number of oranges he put in each basket? Show your work.

3.4G

4. Kent put 9 rows of floor tiles on his kitchen floor. Each row had 56 floor tiles.

$$(50 \times 9) + (6 \times 9) = 450 + 54 = 504$$

Explain how the equation shown above represents the number of floor tiles Kent put on his kitchen floor.

3.4H

5. Henrik picked 15 cups of strawberries from the plants in his garden. He decided to freeze 6 cups of the strawberries, then he used the rest of the strawberries to make pies.

How many pies did Henrik make if he used 3 cups of strawberries in each pie? _____

NAME _____

DATE _____

SCORE ___/10

3.1B Skills and Concepts 5**3.4I**

1. If a whole number is _____ divisible by 2, the number is an _____ number.

Any odd number does _____ have _____ as a **factor**.

An odd number of things cannot be put into pairs. There is always _____ left over.

Every odd number has _____, _____, _____, _____, or _____ in its _____ place.

3.4J

2. Belinda made 40 pints of fruit punch for a party. There are 8 pints in each gallon of punch. What multiplication fact can be used to find the number of gallons of fruit punch she made?

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

Explain why this multiplication fact can be used to find the number of gallons of fruit punch Belinda made.

3.4K

3. Mitzi jogged 3 miles every day for 8 days. How many more days will she have to jog to reach a total of 33 miles? _____ Explain how you know your answer is correct.

3.5A

4. Mr. Cooper has 3 pails with golf balls in them. The first pail has 87 golf balls. The second has 105 golf balls, and the third has 113 golf balls. Write an equation that represents the total number of golf balls that Mr. Cooper has in the 3 pails.

Explain how you know your equation is correct.

3.5B

5. A grocery store has a display of 54 bananas in bunches of 6.

What is the number of bunches of bananas in the display? _____

Explain how you know your answer is correct.

NAME _____

DATE _____

SCORE ___/10

3.1B Skills and Concepts 6**3.5C**

1. Beau had 5 dinosaur books, then he bought 3 more dinosaur books. Delia has 3 times as many dinosaur books as Beau. Write an expression that represents the number of dinosaur books that Delia has compared to the number Beau has.

Explain how you know your expression is correct.

3.5D

2. Sheniqua drew and painted 3 flowers on 8 thank-you notes she will write for her birthday gifts.

What is the total number of flowers she put on her thank-you notes? _____

Explain how you know your answer is correct.

3.5E

3. The table represents how many line segments are needed to draw different numbers of hexagons.

Drawing Hexagons

Number of Hexagons	3	4	5	6	7
Number of Line Segments		24	30	36	42

How many line segments are needed to draw 3 hexagons? _____

Explain how you know your answer is correct.

3.6A

4. Look at the figures below.

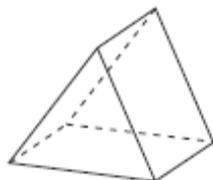


Figure A



Figure B

- Figure A is a _____-dimensional figure. The figure has _____, _____, and height.

- Figure B is a _____-dimensional figure. The figure has _____ and width.
- Figure A has _____ edges, _____ vertices, _____ faces, and _____ bases.
- Figure B has _____ sides and _____ vertices.
- Figure A has 3 faces that are _____.

Figure A is a _____.

Figure B is a _____.

3.6B

5. Sketch a different quadrilateral that is not a parallelogram, rectangle, rhombus, square or trapezoid.

Explain why this quadrilateral is not a parallelogram, rectangle, rhombus, square or trapezoid.

NAME _____

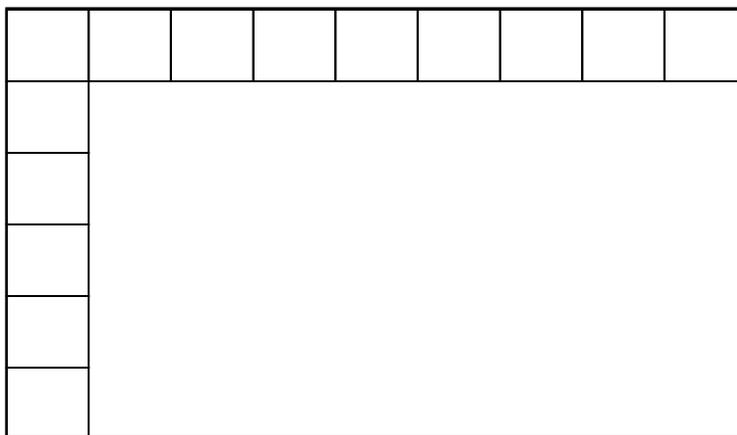
DATE _____

SCORE ___/10

3.1B Skills and Concepts 7**3.6C**

1. The model below represents the length and width of a rectangle.

The area of this model is _____ square _____.

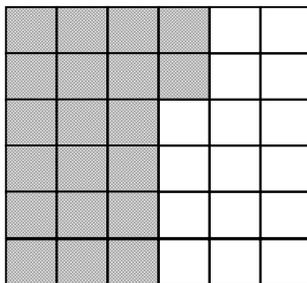


 = 1 square inch

Explain how you know your answer is correct.

3.6D

2. Ingrid is making a quilt for her bed. The shaded squares in the diagram represent the area of her quilt she has completed. Each unit square represents 1 square foot.



What is the area of the quilt that Ingrid has completed? _____ square _____
Explain how you know your answer is correct.

3.6E

3. The two-dimensional figures shown below are congruent. Each figure has been divided into parts with equal areas.

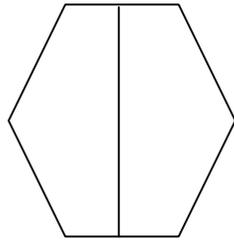


Figure C

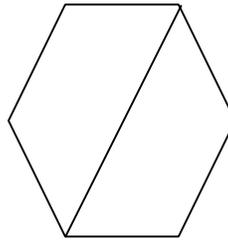


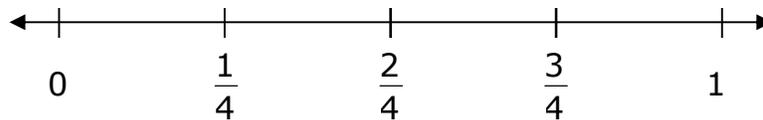
Figure D

The equal parts of Figure C do not have the same _____ as the equal parts of Figure D.

The equal parts of Figure C have the same _____ as the equal parts of Figure D.

3.7A

4. Dustin learned that a sloth travels on the ground at the rate of $\frac{1}{4}$ meter each second.



Explain how the number line helps you find how far the sloth travels in 4 seconds.

3.7B

5. Terra put tape around the edges of a poster. The rectangular poster is 3 feet long and 2 feet wide.

Terra used _____ feet of tape to put around the edges of the poster.
Explain how you know your answer is correct.

NAME _____

DATE _____

SCORE ___/10

3.1B Skills and Concepts 8**3.7C**

1. Mariah's softball game began at 3:30 P.M. on Saturday. Jeri's softball game began 45 minutes later.



At what time did Jeri's softball game begin?

3.7D

2. A small bag of apples weighs about 20 ounces. List 3 other situations where ounces could be used as a measurement unit.

3.4E

3. A turkey vulture weighs about as much as a laptop computer. What is the best unit of measure to find the mass of a turkey vulture?

3.8A

4. The table shows the amount of rainfall in a Texas town during the months of April, May and June.

Rainfall Record

Month	Rainfall (in inches)
April	7
May	6
June	4

What was the amount of rainfall in the town in April? _____ in.

Which month had the least amount of rainfall? _____

What was the amount of rainfall in the town in May? _____ in.

Which month had the greatest amount of rainfall? _____

What was the greatest of rainfall in the town in June? _____ in.

3.8B

5. The graph shows the number of different lunch specials ordered at a restaurant on Saturday.

Lunch Special Orders

Special	Number Ordered
Hamburger	
Personal Pan Pizza	
Sub Sandwich	
Taco Salad	

Each  represents 2 lunches

How many more personal pan pizzas were ordered than sub sandwiches? _____
Show your work.

How many less hamburgers and sub sandwiches combined were ordered than personal pan pizzas and taco salads combined? _____ Show your work.

NAME _____

DATE _____

SCORE ___/10

3.1B Skills and Concepts 9**3.9A**

1. The table shows types of jobs and the weekly salary.

Type of Job and Income	
Job	Weekly Salary
Surgeon	\$5,234
Computer Engineer	\$1,367
Hair Stylist	\$373
Fire Fighter	\$618
Webmaster	\$1,193
Fast Food Cook	\$306
Dentist	\$2,709
Bookkeeper	\$675
Discount Store Clerk	\$284
Pharmacist	\$2,204

Shelby wants to be a computer engineer. What do you think she will have to do to become a computer engineer?

What is the weekly salary difference between a computer engineer and a bookkeeper?

_____ Show your work to prove your answer is correct.

3.9B

2. Baseball cards of a famous player were sold at an auction. At the auction, people called out bids for each card. A bid is the price a person is willing to pay for an auction item.

Famous Baseball Player Cards	
Year Card Was Made	Selling Price
1951	\$4,810
1952	\$1,550
1953	\$999
1954	\$1,210

Which year do you think the fewest cards for this baseball player were made? _____
Explain why you think your answer is correct.

3.9D

3. Chet needs to repair his broken bicycle so he can deliver newspapers. He used credit to borrow \$84. He will pay \$12 each month and \$1 extra in interest each month.

How much will he pay in all for the credit he used repair his bike? \$_____

Show your work to prove your answer is correct.

3.9E

4. Reagan already has \$80 saved to purchase a tent before she goes camping in 6 months. The cost of the tent is \$240. Reagan decided to save \$40 per month for the next 5 months. She found the tent on sale for \$200 at the end the third month of her savings plan. Does Emily have enough money saved to buy the tent after saving for only 3 months? _____ Show your work to prove your answer is correct.

3.9F

5. A list of money situations is shown below. Decide if each situation is related to income, spending, saving, credit, or giving. Write more than one word if the situation is related to more than one.

Buying some new socks _____

Putting \$25 aside each week for college expenses _____

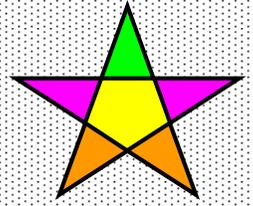
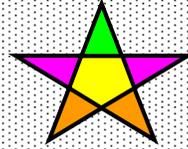
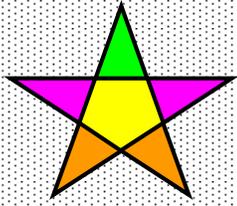
Donating to the Park Rebuilding Fund_____

Borrowing \$1,000 to pay for new garage door_____

Starting a new job_____

Buying gas to get to work_____

TEKSING TOWARD STAAR



MATHEMATICS

GRADE 3

Open-Ended

Skills and Concepts

TEKS CATEGORY 2

Number and Operations

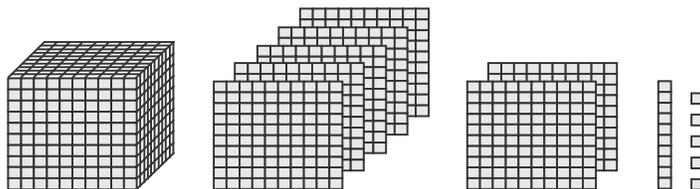
NAME _____

DATE _____

SCORE ___/5

3.2A Skills and Concepts 1

1. What number is represented by this model? _____



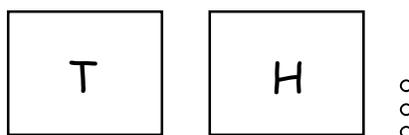
Write the number represented by the model in expanded form.

2. Charlotte works at a button factory. She packs buttons in boxes of 100. Use the relationships in place value to help you quickly find the number of boxes Charlotte will need to pack 1,500 buttons.

Charlotte will need _____ boxes to pack 1,500 buttons because

3. The number of people who visited the zoo in Waco on Friday was 3,154. Write this number in expanded notation.

4. Alejandra drew a quick sketch to represent the 1,130 students at her school. Explain why her model is or is not correct.



Alejandra's model _____ correct because

5. About 47,360 people ride the Dart Rail in Dallas each day. What is the number of ten thousands in 47,360? _____ Explain how you know your answer is correct.

NAME _____

DATE _____

SCORE ___/5

3.2A Skills and Concepts 2

1. Soo-Lin drew a quick sketch to represent the number of pennies in her coin bank.



How many pennies are in Soo-Lin's coin bank? _____
Write your answer in expanded form.

2. Write 805,000 in words. Explain why your answer is correct.

3. Write thirty-six thousand, four hundred fifty-one in expanded notation. Make a place value chart to prove your answer is correct.

4. What is the value of the digit 4 in the number 467,059? Make a place value chart to prove your answer is correct.

5. Erin wrote a number with a 3 in the thousands place, an 8 in the hundreds place, and a 6 in the tens place. What number could Erin have written? Make a place value chart to prove your answer is correct.

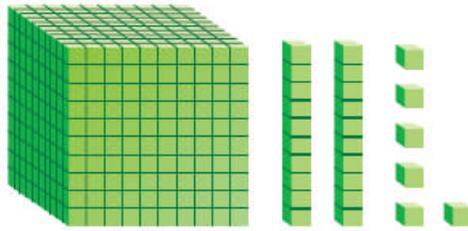
NAME _____

DATE _____

SCORE ___/5

3.2A Skills and Concepts 3

1. What number is represented by this model? _____



Write the number represented by the model in expanded form.

2. Write a number in standard form that has the same value as $600 + 40 + 5$.

Explain why your answer is correct.

3. Write six hundred seventy in standard form. Make a place value chart to prove your answer is correct.

4. Write 874,567 in expanded notation. Make a place value chart to prove your answer is correct.

5. Write a number in standard form that has the same value as $500 + 70 + 9$. Explain why your answer is correct.

NAME _____

DATE _____

SCORE ___/5

3.2A Skills and Concepts 4

1. The ABC Block Company manufactures 100 blocks per hour. Use the relationships in place value to help you quickly find the number of hours it will take to manufacture 1,300 blocks.

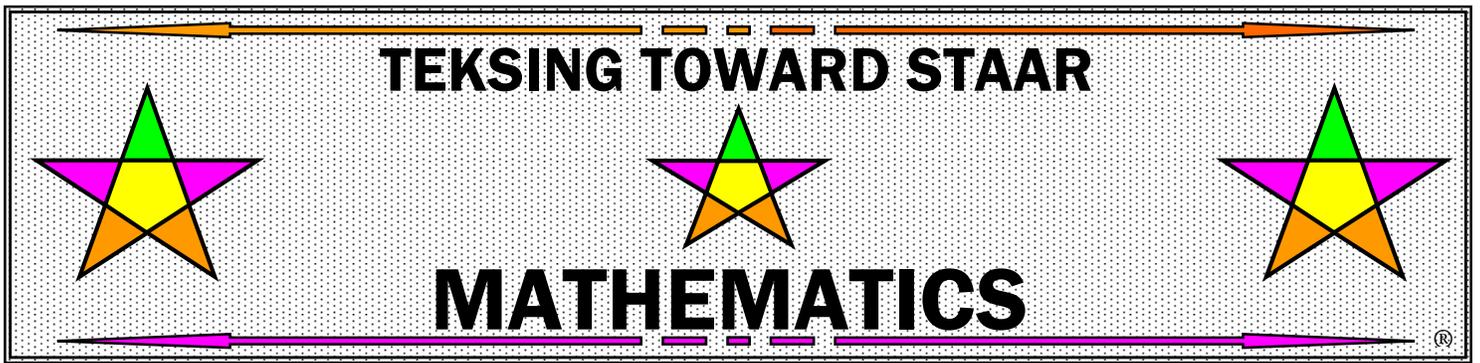
It will take the ABC Block Company _____ hours to manufacture 1,300 blocks because

2. Write a number that has the same value as $800,000 + 60,000 + 40 + 5$. Explain why your answer is correct.

3. Write six hundred sixty-three thousand nine in expanded notation. Make a place value chart to prove your answer is correct.

4. What is the value of the digit 8 in the number 387,059? _____
Explain how you know your answer is correct.

5. When you go from right to left in a number, how are the values of the places related to each other? Explain how you know your answer is correct.



GRADE 3

Open-Ended

Skills and Concepts

TEKS CATEGORY 3

Algebraic Reasoning

NAME _____

DATE _____

SCORE ___/5

3.5C Skills and Concepts 1

1. Complete the following to make a true statement about the numerical relationship between 24 and the product of 4×24 .

The _____ of 4×24 represents _____ times as much as _____.
Explain how you know the statement is correct.

2. Complete the following to make a true statement about the numerical relationship between 42 and the product of 7×42 .

The _____ of 7×42 represents _____ times as much as _____.
Explain how you know the statement is correct.

3. Complete the following to make a true statement about the numerical relationship between 18 and the product of 18×6 .

The _____ of 18×6 represents _____ times as much as _____.
Explain how you know the statement is correct.

4. Complete the following to make a true statement about the numerical relationship between 35 and the product of 5×35 ?

The _____ of 5×35 represents _____ times as much as _____.
Explain how you know the statement is correct.

5. Jake saved \$4 in January. Morgan saved 3 times as much as Jake. Write an expression that represents the amount of money Morgan saved compared to the amount Jake saved.

Explain how you know the expression is correct.

NAME _____

DATE _____

SCORE ___/5

3.5C Skills and Concepts 2

1. Mitch can play 4 different songs on the piano. Nathan can play twice as many songs on the piano as Mitch can play. Write an expression that represents the number of songs Nathan can play compared to the number of songs Mitch can play.

Explain how you know the expression is correct.

2. Jasmine wrote 3 paragraphs for her story. Laurence wrote 2 times as many paragraphs for his story as Jasmine wrote. Write an expression that represents the number of paragraphs Laurence wrote.

Explain how you know the expression is correct.

3. Complete the following to make a true statement about the numerical relationship between 12 and the product of 3×12 ?

The _____ of 3×12 represents _____ times as much as _____.
Explain how you know the statement is true.

4. Complete the following to make a true statement about the numerical relationship between 28 and the product of 7×28 ?

The _____ of 7×28 represents _____ times as much as _____.
Explain how you know the statement is true.

5. Complete the following to make a true statement about the numerical relationship between 36 and the product of 4×32 ?

The _____ of 4×32 represents _____ times as much as _____.
Explain how you know the statement is true.

NAME _____

DATE _____

SCORE ___/5

3.5C Skills and Concepts 3

1. Complete the following to make a true statement about the numerical relationship between 36 and the product of 6×36 .

The _____ of 6×36 represents _____ times as much as _____.
Explain how you know the statement is true.

2. Rachel has 18 colored markers. Leslie's colored markers can be represented by 2×18 . Complete the statement to describe the expression that represents Leslie's colored markers compared to Rachel's colored markers.

The _____ of 2×18 is _____ times as many as _____.
Explain how you know the expression represents Leslie's colored markers compared to Rachel's colored markers.

3. Complete the following to make a true statement about the numerical relationship between 30 and the product of 30×6 .

The _____ of 30×6 is _____ times as much as _____.
Explain how you know the statement is true.

4. Stan wrote the multiplication expression 3×9 . Complete the comparison statement to describe the expression that Stan wrote

The _____ of 3×9 is _____ times as many as _____.
Explain how you know the statement is true.

5. Trina collected 6 proofs of purchase from cereal boxes for a prize. Ivanka collected 4 times as many proofs of purchase as Trina. Write an expression that represents the number of proofs of purchase that Ivanka collected compared to the number Trina collected.

Explain how you know the expression you wrote represents the number of proofs of purchase that Ivanka collected compared to the number Trina collected.

NAME _____

DATE _____

SCORE ___/5

3.5C Skills and Concepts 4

1. A school is selling wrapping paper and ribbons to raise funds for a new playground. Eric sold 5 rolls of wrapping paper. Serena sold 3 times as many rolls as Eric. Write an expression that represents the number of rolls that Serena sold compared to Eric.

Explain how you know the expression is correct.

2. Demi's dog weighs 10 pounds. Kasandra's dog weighs 5 times as many pounds as Demi's dog. Write an expression that represents the weight of Kasandra's dog compared to the weight of Demi's dog.

Explain how you know the expression is correct.

3. Rico has 2 blue baseball caps, 3 green baseball caps, and 1 red baseball cap. Jon has 3 times as many baseball caps as Rico. Write an expression that represents the number of baseball caps that Jon has compared to the number Rico has?

Explain how you know the expression is correct.

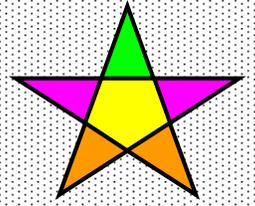
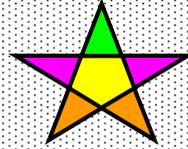
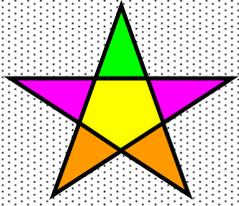
4. Jerica and Erika made pot holders. Jerica made 21 pot holders. The number of pot holders Erika made can be represented by the expression 6×21 . Complete the comparison statement to describe the expression.

_____ made _____ times as many pot holders as _____.

5. Complete the comparison statement to describe the multiplication expression 8×4 .

The product of 8×4 is _____ times as many as _____.

TEKSING TOWARD STAAR



MATHEMATICS

GRADE 3

Open-Ended

Skills and Concepts

TEKS CATEGORY 4

Geometry
and
Measurement

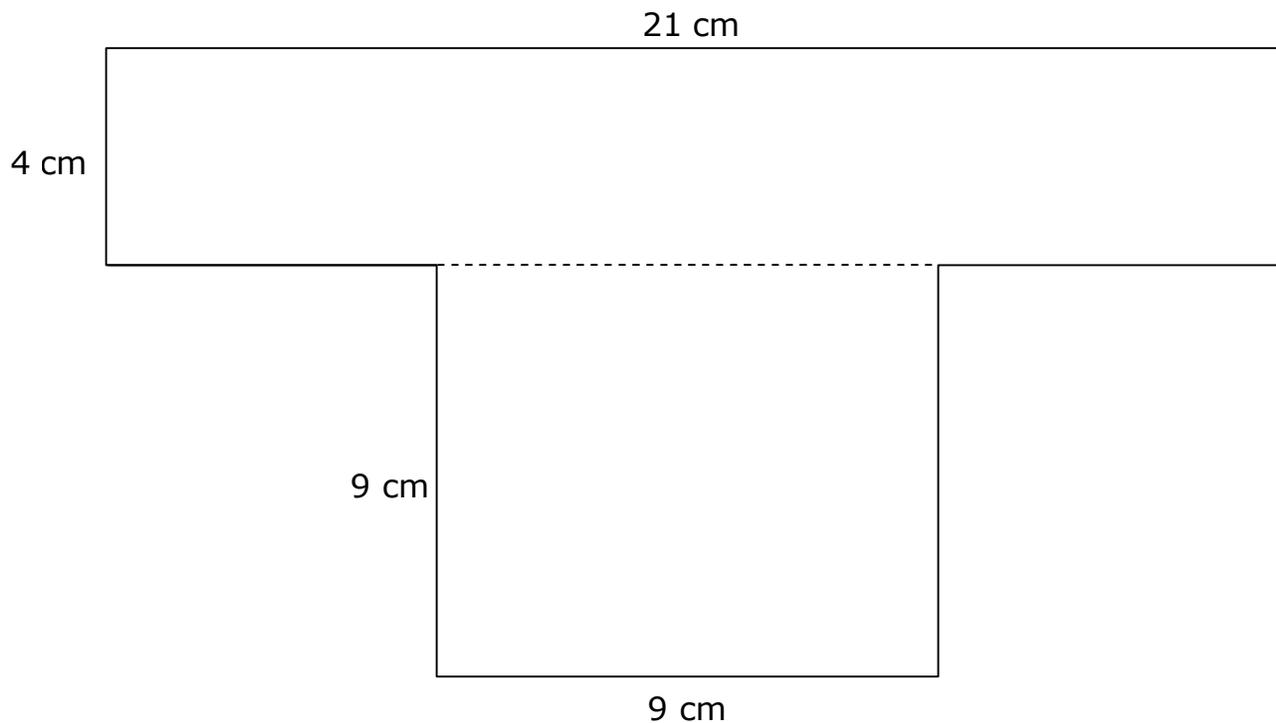
NAME _____

DATE _____

SCORE ___/5

3.6D Skills and Concepts 1

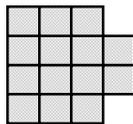
1. Jerissa used a rectangle and square to make the figure shown below.



Write an equation that represents the area of Jerissa's composite figure.

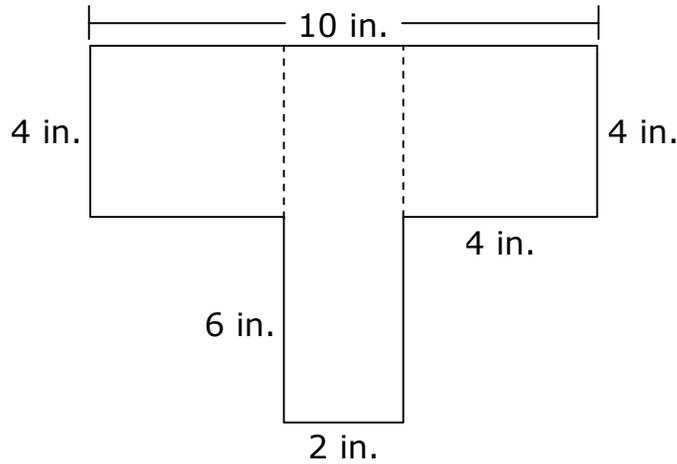
Explain how you know your answer is correct.

2. Liam made a design using 1-inch color tiles.



The area of the design is _____ square _____.
Explain how you know your answer is correct.

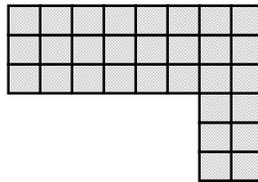
3. The figure shown below is composed of 1 rectangle and 2 congruent squares.



Write an equation that represents the area of the composite figure shown above.

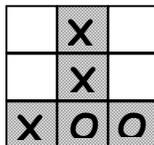
Explain how you know the equation is correct.

4. Tyrone made a drawing to represent a hallway in his house. Each square represents 1 square foot.



The area of the hallway is _____ square _____.
Explain how you know your answer is correct.

5. Margo and Reagan are competitors in a Tic-Tac-Toe tournament. The diagram shows the area of the game board they have used so far. Each unit square represents 10 square centimeters on their game board.



The area of the game board that they have used so far is _____ square _____.
Explain how you know your answer is correct.

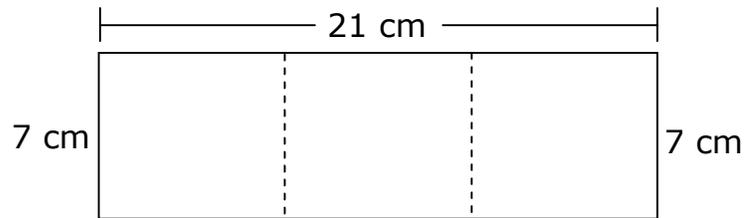
NAME _____

DATE _____

SCORE ___/5

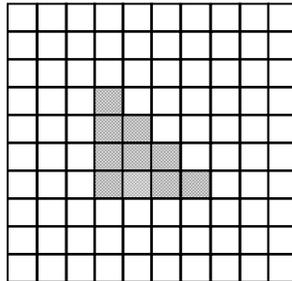
3.6D Skills and Concepts 2

1. The figure shown below is composed of 3 squares.



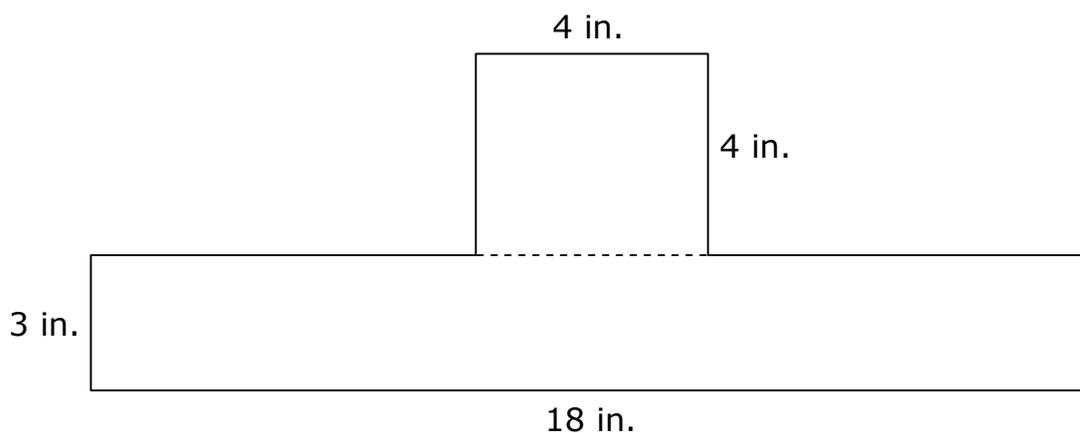
Write an equation that represents the area of the composite figure shown above.

2. Dany painted a design on her patio. The shaded part of the grid represents her design. Each square in the grid represents 1 square foot.



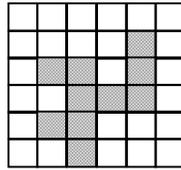
What is the area of the design Dany painted? _____ square _____

3. Seth used a rectangle and square to make the figure shown below.



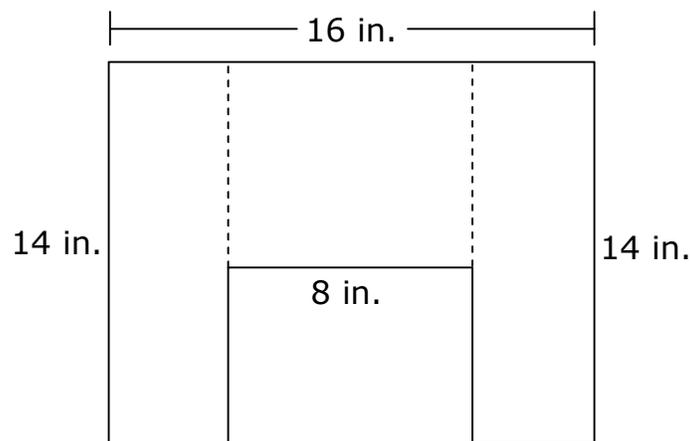
Write an equation that represents the area of Seth's composite figure.

4. Edwin is helping his parents lay pavers for a new walkway. The walkway is represented by the shaded part on the grid. Each square in the grid represents 1 square meter.



What is the area of the new walkway? _____ square _____
 Explain how you know your answer is correct.

5. The figure shown below is composed of 2 congruent rectangles and 1 square.



Write an equation that represents the area of the composite figure shown above.
 Explain how you know the equation is correct.

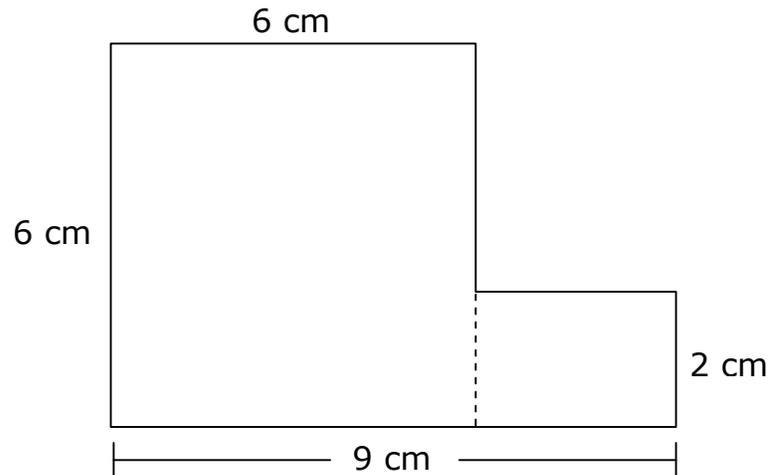
NAME _____

DATE _____

SCORE ___/5

3.6D Skills and Concepts 3

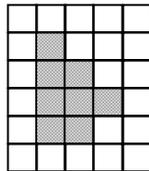
1. The figure shown below is composed of 1 square and 1 rectangle.



Write an equation that represents the area of the composite figure shown above.

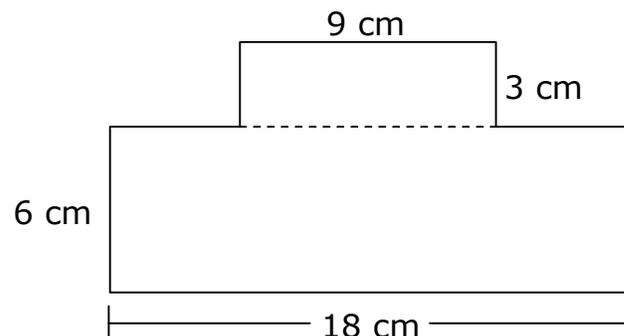
Explain how you know the equation is correct.

2. The shaded area of the diagram represents a new deck at Angie's house. Each square represents 1 square foot.



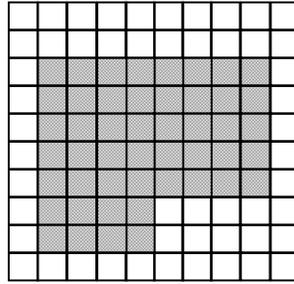
What is the area of the deck in square feet? _____ square _____

3. The figure shown below is composed of 2 rectangles.



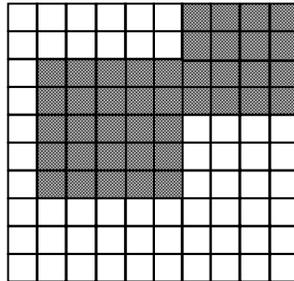
Write an equation that represents the area of the composite figure shown above.

4. Emilio drew a sketch of the design for a community pool at the city park in his town. The shaded part of the grid represents the pool. Each square in the sketch represents 1 square meter.



What will be the area of the new swimming pool? _____ square _____
 Explain how you know your answer is correct.

5. Nathan shaded a grid to show the size of a maze he is building for his hamster. Each square represents 1 square inch.



What will be the area of the maze Nathan is building? _____ square _____
 Explain how you know your answer is correct.

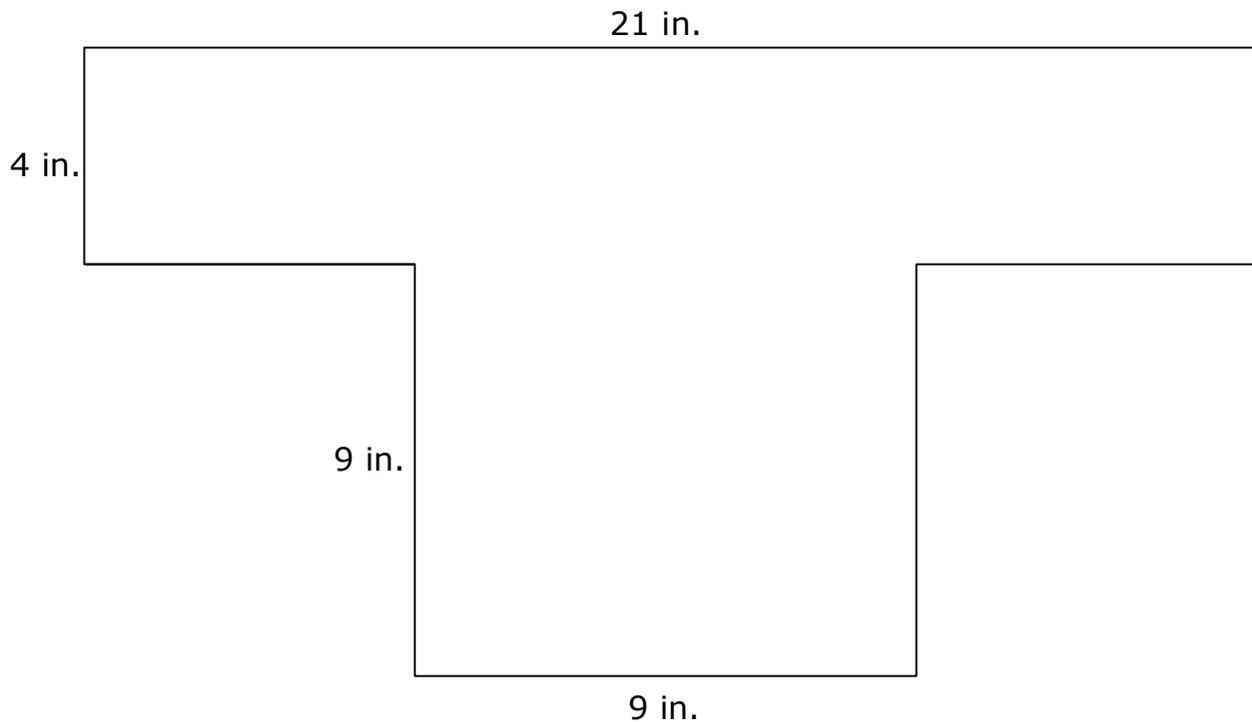
NAME _____

DATE _____

SCORE ___/5

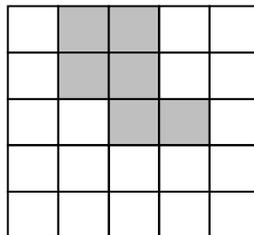
3.6D Skills and Concepts 4

1. Jerissa used a rectangle and square to make the figure below.



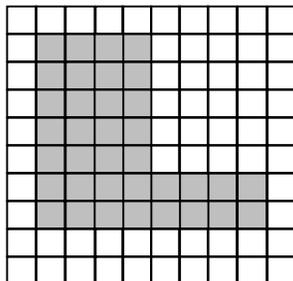
What is the area of Jerissa's figure? _____ square _____
 Explain how you know your answer is correct.

2. Megan shaded a grid to represent the area of her flower garden. Each square on the grid represents 1 square foot.



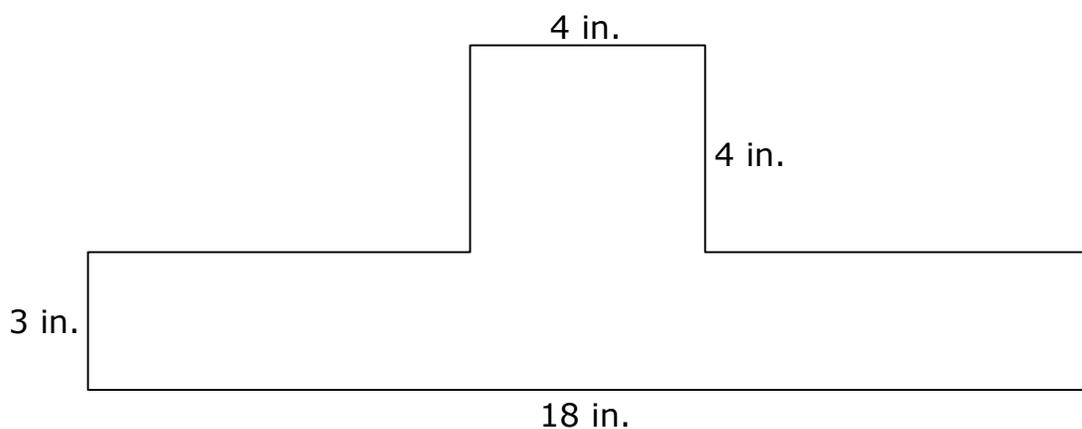
What is the area of the flower garden? _____ square _____
 Explain how you know your answer is correct.

3. Luther shaded a grid to represent the area of a pond near his house. Each square on the grid represents 1 square foot.



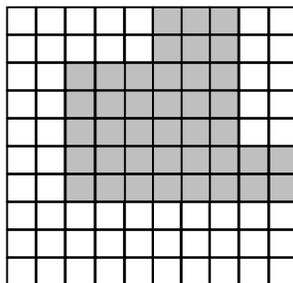
What is the area of the pond? _____ square _____

4. Seth used a square and rectangle to make the figure below.

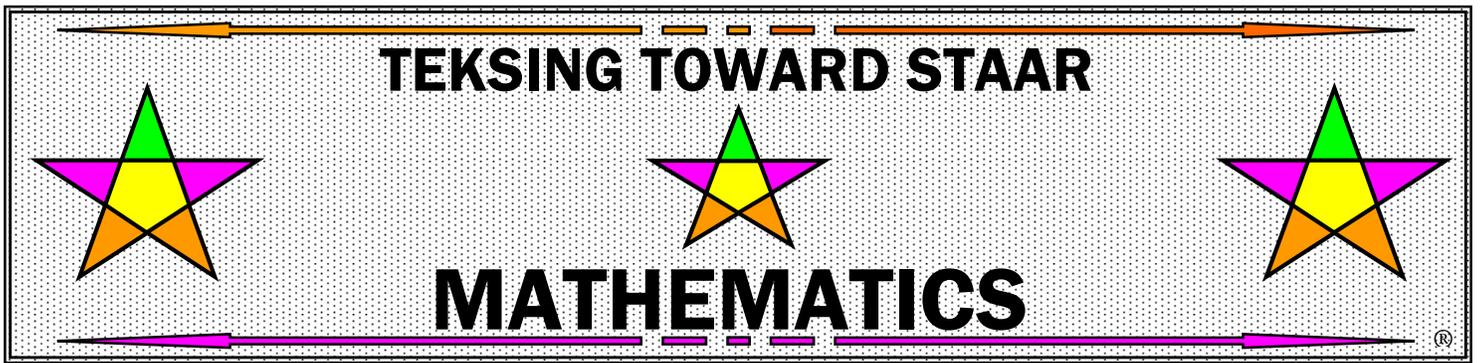


What is the area of Seth's figure? _____ square _____
 Explain how you know your answer is correct.

5. Geraldo shaded grid paper to represent his plan for the floor of his tree house. Each square on the grid paper represents 1 square foot.



What will be the area of the floor of Geraldo's tree house? _____ square _____



GRADE 3

Open-Ended

Skills and Concepts

TEKS CATEGORY 5

Data Analysis

NAME _____

DATE _____

SCORE ___/5

3.8B Skills and Concepts 1

1. The graph shows the number of students who were absent from Hallsville Elementary on Monday.

Hallsville Elementary Absences

(Each 😊 means 2 students)

Grade 1	😊😊😊😊😊😊😊😊😊
Grade 2	😊😊😊😊😊😊😊
Grade 3	😊😊😊😊
Grade 4	😊😊😊😊😊

How many more students were absent in grade 1 than in grade 3? _____ Show your work.

How many students were absent in grade 2 and grade 4? _____ Show your work.

How many more students were absent in grade 2 than grade 4? _____ Show your work.

2. Richard's class wrote letters to third grade pen pals in Canada. The class made a graph of the number of letters they wrote each week.

Letters Written to Pen Pals in Canada

Week 1	✉✉✉✉
Week 2	✉✉✉✉✉✉
Week 3	✉✉✉
Week 4	✉✉✉✉✉✉✉

Each ✉ means 3 letters.

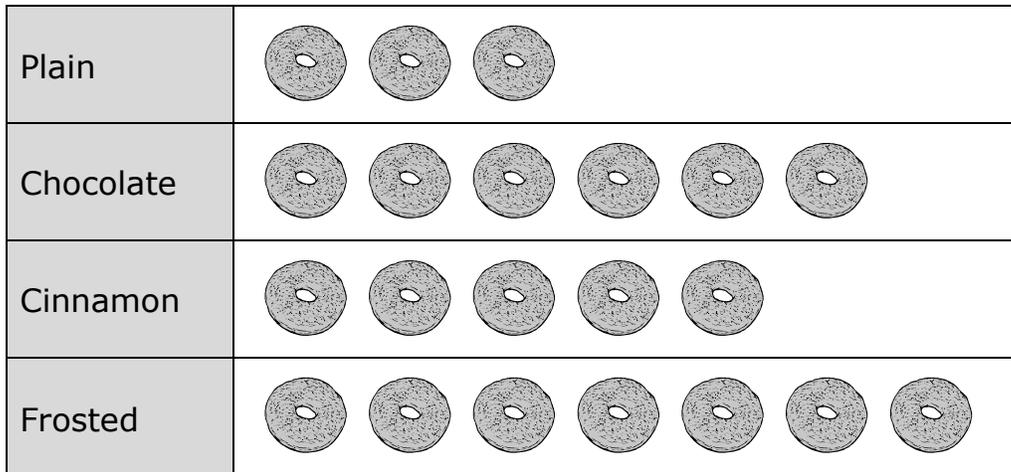
How many letters were written during Week 1 and Week 3? _____ Show your work.

How many letters were written during Week 2 and Week 4? _____ Show your work.

How many letters were written during Week 2 and Week 3? _____ Show your work.

3. The graph shows how many donuts were sold at a donut shop on Saturday morning.

Donuts Sold



Each  means 3 dozen donuts sold.

Complete the frequency table to show the number of dozen donuts sold at the donut shop on Saturday morning. Be sure to title and label the table.

4. Carlos divided his collection of 72 model cars and trucks into groups of 6 by color. Then he made a graph to show how many model cars and trucks of each color he had. He used this drawing to represent 3 model cars and trucks.



How many drawings of the car should Carlos use to represent 24 red model cars and trucks? _____ Explain your answer.

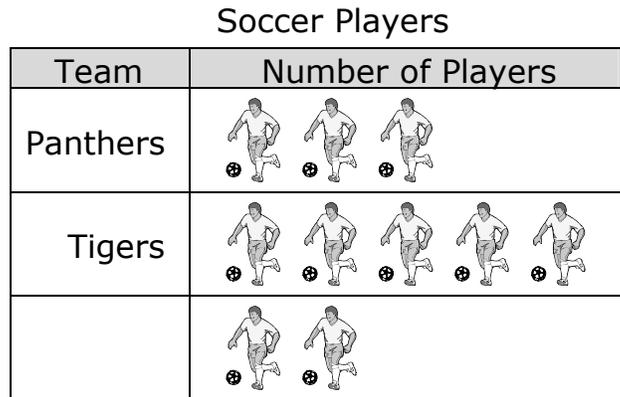
How many drawings of the car should Carlos use to represent 12 blue model cars and trucks? _____ Explain your answer.

How many drawings should Carlos use to represent 18 green model cars and trucks? _____ Explain your answer.

How many drawings should Carlos use to represent 6 yellow model cars and trucks? _____ Explain your answer.

How many drawings should Carlos use to represent 12 silver model cars and trucks? _____ Explain your answer.

5. The graph shows the number of students in Richard's class who play on different soccer teams.



Each  means 3 players.

What information is needed to complete the pictograph?

How many players are on the Panthers? _____ How do you know your answer is correct?

How many less players are on the Panthers than the Tigers? _____ How do you know your answer is correct?

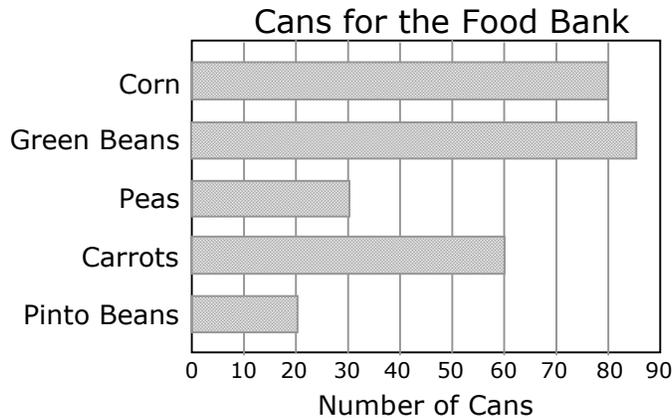
NAME _____

DATE _____

SCORE ___/5

3.8B Skills and Concepts 2

1. The graph shows the number of cans collected by the third grade class for the local Food Bank.



Write 3 questions that can be answered using the information in the bar graph. Then answer your questions.

• **Question 1:**

Answer:

Explain how you know your answer is correct.

• **Question 2:**

Answer:

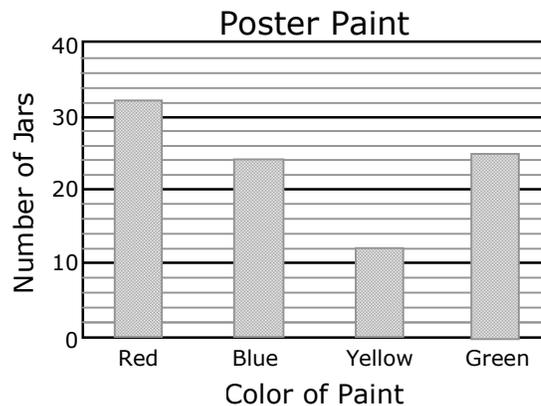
Explain how you know your answer is correct.

• **Question 3:**

Answer:

Explain how you know your answer is correct.

2. The graph shows the number of jars of poster paint that are on an art room shelf.



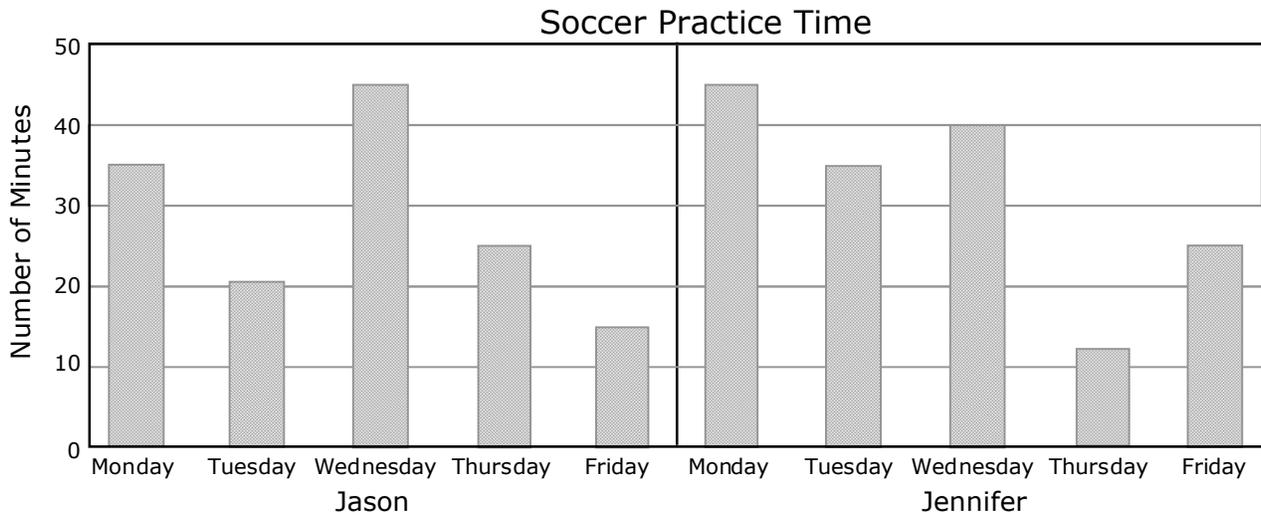
What is the total number of jars of red and yellow paint on the shelf? _____ Show your work.

What is the total number of jars of blue and green paint on the shelf? _____ Show your work.

What is the total number of jars of red and green paint on the shelf? _____ Show your work.

What is the total number of jars of blue and yellow paint on the shelf? _____ Show your work.

3. The bar graph shows the amounts of time Jennifer and Jason spent practicing soccer last week.



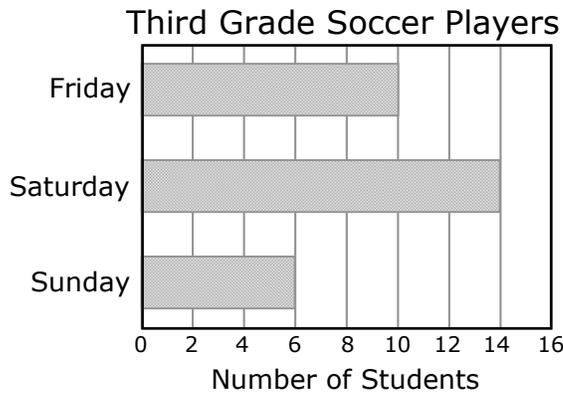
How many more minutes did Jennifer spend practicing soccer than Jason on Tuesday? _____ Show your work.

How many more minutes did Jason spend practicing soccer than Jennifer on Thursday? _____ Show your work.

How many more minutes did Jennifer spend practicing soccer than Jason on Monday? _____ Show your work.

How many minutes did Jason and Jennifer spend practicing soccer on Wednesday?
 _____ Show your work.

4. Janet made this graph to show how many third grade students played soccer on 3 different days.



Complete the list below to show the same data for the number of students that played soccer.

Friday: _____ third grade students played soccer

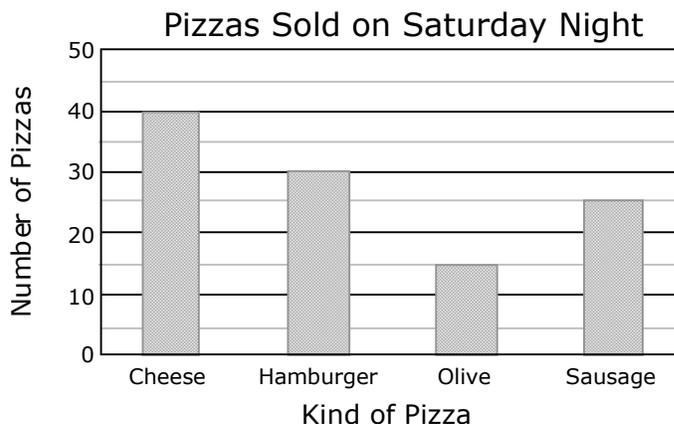
Saturday: _____ third grade students played soccer

Sunday: _____ third grade students played soccer

How many more students played soccer on Saturday than on Friday? _____
 Show your work.

How many students played soccer on Friday, Saturday and Sunday? _____
 Show your work.

5. The graph shows the number of pizzas sold at Pizza Perfect Pizza Parlor on Saturday night.



What is the total number of hamburger and sausage pizzas sold? _____
Show your work.

What is the total number of cheese and olive pizzas sold? _____
Show your work.

What is the difference between the number of hamburger and olive pizzas sold?
_____ Show your work.

How many more cheese pizzas were sold than sausage pizzas? _____
Show your work.

NAME _____

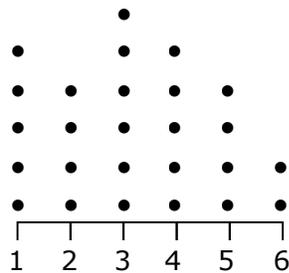
DATE _____

SCORE ___/5

3.8B Skills and Concepts 3

A school librarian is having a reading contest. She recorded the number of books some third grade students read during the month of October, then she created a dot plot to represent the data.

Books Read in October



1. Record the difference between the least number and the greatest number of books read.

$$\underline{\quad\quad} - \underline{\quad\quad} = \underline{\quad\quad}$$

Explain how you know your answer is correct.

2. Record the number of students who read 1, 2, or 3 books.

$$\underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$$

Explain how you know your answer is correct.

3. Record the number of students who read 4, 5, or 6 books.

$$\underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$$

Explain how you know your answer is correct.

4. Record the difference between the number of students who read 1, 2, or 3 books and the number of students who read 4, 5, or 6 books.

$$\underline{\quad\quad} - \underline{\quad\quad} = \underline{\quad\quad}$$

Explain how you know your answer is correct.

5. What is the difference between the number of students who read 1 or 6 books and the number of students who read 2 or 5 books. Show your work.

$$\underline{\quad\quad} - \underline{\quad\quad} = \underline{\quad\quad}$$

Explain how you know your answer is correct.

NAME _____

DATE _____

SCORE ___/5

3.8B Skills and Concepts 4

Third grade students were asked their favorite type of pet. The table below shows the data. Use the frequency table to answer problems 1-5.

Favorite Pet

Type of Pet	Number of Boys	Number of Girls
Cat	6	11
Dog	12	7
Hamster	8	4
Fish	7	6
Guinea Pig	3	5

1. How many more boys than girls chose dog as their favorite pet? _____ Show your work.

How do you know your answer is correct?

3. How many students chose cat or dog as their favorite pet? _____ Show your work.

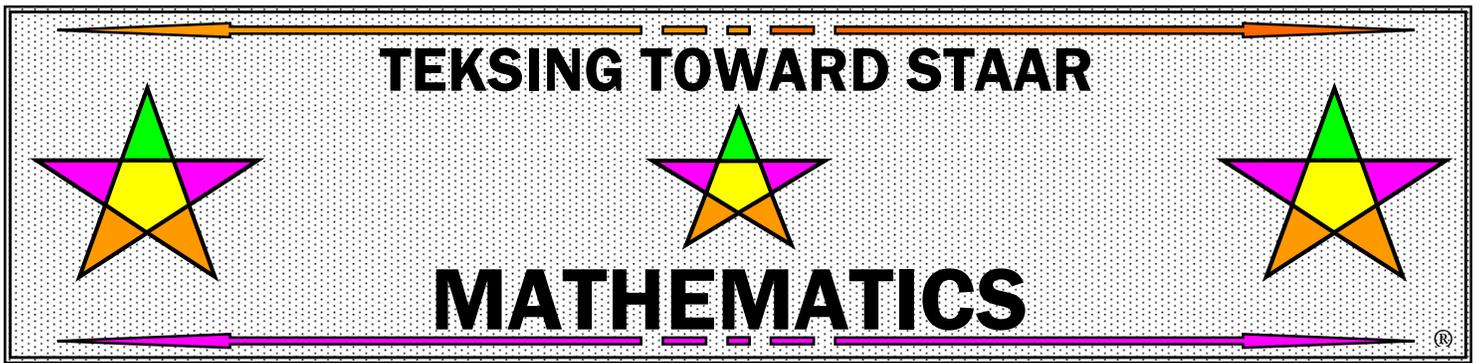
How do you know your answer is correct?

4. How many more students chose fish than guinea pig as their favorite pet? _____ Show your work.

How do you know your answer is correct?

5. How many more students chose cat or dog combined than guinea pig or hamster combined? _____ Show your work.

How do you know your answer is correct?



GRADE 3

Open-Ended

Skills and Concepts

TEKS CATEGORY 6

Personal Financial Literacy

NAME _____

DATE _____

SCORE ___/5

3.9C Skills and Concepts 1

1. Ellie wants to buy a new skateboard that costs \$48 before summer vacation starts in 4 weeks. She has saved \$17. Her plan is to save \$6 each week. Will she be able to save enough money to buy the skateboard before summer vacation starts? _____
Show your work.

Explain why your answer is correct.

2. Owen wants to buy new car speakers that cost \$66. He has saved \$20 and he has a coupon to save \$10. He wants to buy the speakers in 4 weeks.

How much money will he need to save each week? _____ Show your work.

Explain why your answer is correct.

3. Rosa has \$16 saved. She wants to buy a new cell phone in 6 weeks that costs \$75. Describe a plan that will help her reach her goal to buy a new cell phone in 6 weeks.

4. Jon has \$25. He has decided to start saving \$9 a week to buy a birthday present for his father that costs \$45. Jon's father's birthday is in 3 weeks. Would it be a wise unplanned spending decision for Jared to spend \$15 on a set of comic books?

_____ Show your work.

Explain why your answer is correct.

5. Joe has \$13 to spend. He will earn \$18 washing cars for his neighbors. He plans to buy a pair of jeans that cost \$25.

How much money will he have left after he buys the jeans? _____

Show your work.