## Fifth Grade Mathematics

## 2016 Released Items Analysis

Teacher:


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Edition I

5th Grade Mathematies

## Released Items

Name: $\qquad$

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Date: $\qquad$


## TEKS 5.2A Supporting Standard

represent the value of the digit in decimals through the thousandths using expanded notation and numerals

## ITEM

5 A bank received a check for two thousand, six hundred nine dollars and seventy-five cents. How is this number written in expanded notation?

A $(2 \times 1,000)+(6 \times 100)+(9 \times 10)+(7 \times 0.01)+$ $(5 \times 0.01)$
B $(2 \times 1,000)+(6 \times 100)+(9 \times 1)+(7 \times 0.1)+(5 \times 0.01)$
C $(2 \times 1,000)+(6 \times 10)+(9 \times 1)+(7 \times 1)+(5 \times 1)$
D $(2 \times 1,000)+(6 \times 100)+(9 \times 1)+(7 \times 0.01)+$ $(5 \times 0.001)$

| Item Analysis |  |
| :---: | :---: |
| Verb | Represent |
| Using or <br> Including | Expanded Notation |
| Concept | Value of Digits in a <br> Decimal |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 \mathrm { D } , \mathbf { 5 . 1 F }}$ |
| Notes |  |

TEKS 5.2B Readiness Standard
compare and order two decimals to thousandths and represent comparisons using the symbols $>$, $<$, or $=$

## ITEM

8 The table shows the time in seconds it took four swimmers to complete a race.

Race Times

| Swimmer | One | Two | Three | Four |
| :--- | :---: | :---: | :---: | :---: |
| Time (seconds) | 26.15 | 26.5 | 26.1 | 26.05 |

Which inequality correctly compares two of these race times?
F $\quad 26.5>26.05$
G $26.15>26.5$
H $\quad 26.1<26.05$

| Item Analysis |  |
| :---: | :---: |
| Verb | Compare |
| Using or <br> Including | Symbols $(<,>)$ |
| Concept | Decimals |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 E , 5 . 1 F}$ |
| Notes |  |

## TEKS 5.2B Readiness Standard

compare and order two decimals to thousandths and represent comparisons using the symbols $>,<$, or $=$

## ITEM

23 Joshua compared the values of these decimals.

$$
0.060 .60 .0060 .060
$$

Which statement correctly compares two of these numbers?
A $0.6<0.06$
B $0.006>0.6$
C $\quad 0.6=0.06$
D $0.060=0.06$

| Item Analysis |  |
| :---: | :---: |
| Verb | Compare |
| Using or <br> Including | Symbols $(<\rangle,,=)$ |
| Concept | Decimals |
| Process <br> TEKS | 5.1A, 5.1B, 5.1F |
|  | Notes |

## TEKS 5.2B Readiness Standard

compare and order two decimals to thousandths and represent comparisons using the symbols $>$, $<$, or $=$

## ITEM

34 Books in a library are arranged by their Dewey decimal number. The Dewey decimal numbers for five books are shown in the picture.


Lana will put these five books in order from the least number to the greatest number. Which book will be in the fourth position?

| Item Analysis |  |  |
| :---: | :---: | :---: |
| Verb | Compare <br> Order |  |
| Using or <br> Including | NA |  |
| Concept | Decimals |  |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 F}$ |  |
| Notes |  |  |
|  |  |  |

## ITEM

1 A computer rounded the number 129.257 to the nearest hundredth. What is this number rounded to the nearest hundredth?

A 100
B 129.30
C 130
D 129.26

| Item Analysis |  |
| :---: | :---: |
| Verb | Round |
| Using or <br> Including | NA |
| Concept | Decimals to Hundredths |
| Process <br> TEKS | $\mathbf{5 . 1 A}, \mathbf{5 . 1 B}, \mathbf{5 . 1 F}$ |
|  | Notes |
|  |  |

TEKS 5.4A Supporting Standard
identify prime and composite numbers

## ITEM

20 Seth's homework assignment is to write factor pairs that contain only composite numbers. Seth wrote four factor pairs for the number 132, as shown below.

$$
\begin{gathered}
6 \times 22 \\
11 \times 12 \\
3 \times 44 \\
2 \times 66
\end{gathered}
$$

Which of Seth's factor pairs contains only composite numbers?
F $6 \times 22$

| Item Analysis |  |
| :---: | :---: |
| Verb | Identify |
| Using or <br> Including | NA |
| Concept | Composite Numbers |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B}, \mathbf{5 . 1 F}$ |
| Notes |  |
|  |  |

## TEKS 5.4F Readiness Standard

simplify numerical expressions that do not involve exponents, including up to two levels of grouping

ITEM
25 At a clothing store, Zoey bought 2 shirts for $\$ 7.25$ each and 2 pairs of jeans for $\$ 24$ each. She used a coupon for $\$ 10$ off the total price of the clothes. The discounted price of the clothes Zoey bought can be found using this expression.

$$
[2(7.25)+2(24)]-10
$$

What is the discounted price in dollars and cents of the clothes Zoey bought?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

## Item Analysis

| Verb | Simplify |
| :---: | :---: |
| Using or <br> Including | Two Levels of Grouping |
| Concept | Numerical Expression |
| Process <br> TEKS | $\mathbf{5 . 1 A}, \mathbf{5 . 1 B}, \mathbf{5 . 1 F}$ |
| Notes |  |


| TEKS simplif | 5.4F Readiness Standard numerical expressions that do not involve | two levels | grouping |
| :---: | :---: | :---: | :---: |
| ITEM |  |  | tem Analysis |
|  | $[45-(6+3)] \times 27$ | Verb | Simplify |
| B | $\begin{aligned} & 1,134 \\ & 972 \end{aligned}$ | Using or Including | Two Levels of Grouping |
| C | 198 | Concept | Numerical Expression |
|  |  | Process TEKS | 5.1B, 5.1F |
|  |  |  | Notes |

## TEKS 5.3A Supporting Standard

estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division

## ITEM

2 Mr. Márquez had 123 eggs in a refrigerator in his restaurant. He put 32 more cartons of eggs in the refrigerator. Each carton contained 18 eggs. Which of these is the best estimate of the number of eggs Mr. Márquez now has in his refrigerator?

F 600
G 400
H 700
J 900

| Item Analysis |  |  |
| :---: | :---: | :---: |
| Verb | Estimate |  |
| Using or <br> Including | Addition <br> Multiplication |  |
| Concept | Real-World |  |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 \mathbf { 1 C } , 5 . 1 \mathrm { F }}$ |  |
| Notes |  |  |
|  |  |  |

TEKS 5.3 B Supporting Standard
multiply with fluency a three-digit number by a two-digit number using the standard algorithm

## ITEM

27 A company makes 625 cell phone cases each day. How many cell phone cases does the company make in 31 days?

A 18,375
B 1,490
C 2,500
D 19,375

| Item Analysis |  |  |
| :---: | :---: | :---: |
| Verb | Multiply |  |
| Using or <br> Including | Standard Algorithm |  |
| Concept | Three-Digit by a Two- <br> Digit |  |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 F}$ |  |
| Notes |  |  |



TEKS 5.3D Supporting Standard
represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models

ITEM
42 Marisela used this model to represent 1 whole.

## 

Which model represents $1.8 \times 4$ ?

J


| Item Analysis |  |
| :---: | :---: |
| Verb | Represent |
| Using or <br> Including | Pictorial Models |
| Concept | Multiplication of <br> Decimals |
| Process <br> TEKS | 5.1A, 5.1B, 5.1D, 5.1F |
| Notes |  |

## TEKS 5.3E Readiness Standard

solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers

## ITEM

9 Scott drank 3.5 bottles of water yesterday. Each bottle contained 1.2 pints of water. What was the number of pints of water Scott drank yesterday?

A 4.7 pints
B 4.2 pints
C 4.1 pints
D 42 pints

| Item Analysis |  |  |
| :---: | :---: | :---: |
| Verb | Solve |  |
| Using or <br> Including | Place-Value <br> Understanding |  |
| Concept | Products of Decimals |  |
| Process <br> TEKS | $\mathbf{5 . 1 A}, \mathbf{5 . 1 B}, \mathbf{5 . 1 F}$ |  |
| Notes |  |  |
|  |  |  |

TEKS 5.3E Readiness Standard
solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers

## ITEM

39 Freddy exercised 2.5 hours per day on 4 days last week. He burned 330 calories per hour while exercising. How many calories did Freddy burn by exercising last week?

A 2,640 calories
B 26,400 calories
C 3,300 calories
D 33,000 calories

| Item Analysis |  |
| :---: | :---: |
| Verb | Solve |
| Using or <br> Including | Strategies |
| Concept | Product of Decimals |
| Process <br> TEKS | 5.1A, 5.1B, 5.1F |
|  |  |
|  |  |
|  |  |




| TEKS 5.3G Readiness Standard <br> solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm |  |  |  |
| :---: | :---: | :---: | :---: |
| ITEM <br> 44 What is the quotient when 0.75 is divided by 5 ? <br> F 4.25 <br> G 0.15 <br> H 3.75 <br> J Not here |  | Item Analysis |  |
|  |  | Verb | Solve |
|  |  | Using or Including | Strategies Standard Algorithm |
|  |  | Concept | Quotients of Decimals |
|  |  | Process TEKS | 5.1B, 5.1F |
|  |  |  | Notes |

TEKS 5.3H Supporting Standard
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

## ITEM

6 Cara and Marcus shared a candy bar. The models are shaded to show the fraction of the candy bar each of them ate.


What fraction of the candy bar did Cara and Marcus eat altogether?

| Item Analysis |  |  |
| :---: | :---: | :---: |
| Verb | Solve |  |
| Using or <br> Including | Pictorial Models |  |
| Concept | Addition <br> Fractions |  |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 E , 5 . 1 F}$ |  |
| Notes |  |  |
|  |  |  |




## TEKS 5.3K Readiness Standard

 add and subtract positive rational numbers fluently
## ITEM

18 Last month Jim drove his car 2,718.3 miles. That brought the car's total mileage to 87,416 miles. What was the car's total mileage before last month?

F $84,697.7 \mathrm{mi}$
G $85,302.7 \mathrm{mi}$
H $89,124.3 \mathrm{mi}$
J $90,134.3 \mathrm{mi}$

| Item Analysis |  |
| :---: | :---: |
| Verb | Add |
| Using or <br> Including | NA |
| Concept | Positive Rational <br> Numbers |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 F}$ |
| Notes |  |
|  |  |

TEKS 5.3K Readiness Standard
add and subtract positive rational numbers fluently

## ITEM

24 The table shows the population of three Texas counties. The population of Gray County is missing.

Population

| County | Population |
| :--- | ---: |
| Anderson | 58,308 |
| Dallas | $2,416,014$ |
| Brazos | 197,632 |
| Gray |  |

The population of Gray County is 35,553 less than the population of Anderson County. What is the combined population of these four counties?

| Item Analysis |  |
| :---: | :---: |
| Verb | Add |
| Using or <br> Including | NA |
| Concept | Positive Rational <br> Numbers |
| Process <br> TEKS | 5.1A, 5.1B, 5.1E, 5.1F |
| Notes |  |
|  |  |


| TEKS 5.3K Readiness Standard add and subtract positive rational numbers fluently |  |  |
| :---: | :---: | :---: |
| ITEM <br> 35 Marsha bought a birthday card for $\$ 2.86$ and a pen for $\$ 1.57$. She paid with a $\$ 20$ bill. How much change should Marsha have received? | Item Analysis |  |
|  | Verb | Add Subtract |
| A $\$ 15.57$ <br> B $\$ 24.43$ | Using or Including | NA |
| C $\$ 17.77$ <br> D $\$ 16.57$ | Concept | Positive Rational Numbers |
|  | Process TEKS | 5.1A, 5.1B, 5.1F |
|  |  | Notes |


| ITEM <br> 13 Cyril put a total of $\frac{1}{8} \mathrm{lb}$ of gravel into 6 fish tanks. He put the same amount of gravel into each tank. How many pounds of gravel did Cyril put into each fish tank? | Item Analysis |  |
| :---: | :---: | :---: |
|  | Verb | Divide |
| A $\frac{6}{8} \mathrm{lb}$ | Using or Including | NA |
| B $\frac{1}{6} \mathrm{lb}$ <br> C $\frac{1}{48} \mathrm{lb}$ | Concept | Fraction by a Whole Number |
| D $\frac{6}{48} \mathrm{lb}$ | Process TEKS | 5.1A, 5.1B, 5.1F |
|  |  | Notes |

## TEKS 5.3L Readiness Standard

divide whole numbers by unit fractions and unit fractions by whole numbers

## ITEM

37 Amy cut 32 feet of chain into pieces that were each $\frac{1}{4} \mathrm{ft}$ long. How many of these pieces did Amy have after cutting the chain?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

| Item Analysis |  |
| :---: | :---: |
| Verb | Divide |
| Using or <br> Including | NA |
| Concept | Whole Number by a <br> Fraction |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 F}$ |
|  | Notes |

TEKS 5.4B Readiness Standard
represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity

## ITEM

14 Mr. Anderson had 185 pieces of wood. He sold 25 pieces of wood to his neighbor and stacked the rest of the wood into piles around his house. Each pile of wood contained 40 pieces of wood. Which equation can be used to find $p$, the number of piles of wood Mr. Anderson made?

F $\quad p=(185+25)+40$
G $\quad p=(185-25)-40$
H $p=(185+25) \times 40$
J $p=(185-25) \div 40$

| Item Analysis |  |
| :---: | :---: |
| Verb | Represent |
| Using or <br> Including | Equation |
| Concept | Multi-Step <br> Letter Unknown |
| Process <br> TEKS | 5.1A, 5.1B, 5.1D, 5.1F |
| Notes |  |

## TEKS 5.4B Readiness Standard

represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity

## ITEM

30 The table shows the number of hats made at a factory during three weeks in February. The number of hats made in Week 4 is represented by $n$.

| Hats |  |
| :---: | :---: |
| Week | Number <br> of Hats |
| 1 | 562,937 |
| 2 | 607,822 |
| 3 | 492,375 |
| 4 | $n$ |


| Item Analysis |  |
| :---: | :---: |
| Verb | Represent |
| Using or <br> Including | Equations |
| Concept | Multi-Step <br> Letter Unknown |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 E , 5 . 1 F}$ |
| Notes |  |

The total number of hats made at the factory in February was $2,148,431$. Which equation represents this situation?

F $2,148,431=(562,937+607,822+492,375)+n$
G $2,148,431=(562,937+607,822+492,375)-n$
H $2,148,431=(562,937+607,822+492,375) \times n$
J $2,148,431=(562,937+607,822+492,375) \div n$

## TEKS 5.4B Readiness Standard

represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity

ITEM
41 This equation can be used to find $b$, the number of dollars Mrs. Colton earned as a sales bonus last week.

$$
b=429(39 \times 9)
$$

What was the amount of Mrs. Colton's bonus?
A $\$ 20$
B $\$ 78$
C $\$ 158$
D $\$ 138$

| Item Analysis |  |
| :---: | :---: |
| Verb | Solve |
| Using or <br> Including | Equations |
| Concept | Multi-Step Problems |
| Process <br> TEKS | $\mathbf{5 . 1 A}, \mathbf{5 . 1 B}, \mathbf{5 . 1 F}$ |
| Notes |  |
|  |  |

## TEKS 5.4C Readiness Standard

 generate a numerical pattern when given a rule in the form $y=a x$ or $y=x+a$ and graph
## ITEM

16 Which table could represent the equation $y=0.1 x$ ?
F

| $\boldsymbol{x}$ | $\boldsymbol{y}$ |
| ---: | ---: |
| 5 | 50 |
| 10 | 100 |
| 15 | 150 |
| 20 | 400 |
| 40 | 400 |

H

G

| $\boldsymbol{x}$ | $y$ |
| ---: | :---: |
| 5 | 0.5 |
| 10 | 1.0 |
| 15 | 1.5 |
| 20 | 2.0 |
| 40 | 4.0 |

J

| $\boldsymbol{x}$ | $\boldsymbol{y}$ |
| ---: | :---: |
| 5 | 0.5 |
| 10 | 0.6 |
| 15 | 0.7 |
| 20 | 0.8 |
| 40 | 1.2 |


| Item Analysis |  |
| :---: | :---: |
| Verb | Generate |
| Using or <br> Including | Given a rule <br> $y=a x$ |
| Concept | Numerical Pattern |
| Process <br> TEKS | $\mathbf{5 . 1 B}, \mathbf{5 . 1 D}, \mathbf{5 . 1 F}$ |
|  | Notes |

TEKS 5.4C Readiness Standard
generate a numerical pattern when given a rule in the form $y=a x$ or $y=x+a$ and graph

32 Customers at a gift shop receive free stickers for every T-shirt they buy. The graph shows the relationship between $x$, the number of T-shirts customers buy, and $y$, the number of stickers customers receive.


Which table also represents this relationship?
F


J

| Gift Shop |  |
| :---: | :---: |
| Number of <br> T-Shirts Bought | Number of <br> Free Stickers |
| 6 | 18 |
| 10 | 30 |
| 14 | 42 |
| 18 | 54 |


| Item Analysis |  |
| :---: | :---: |
| Verb | Generate |
| Using or <br> Including | Graph |
| Concept | Numerical Pattern |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 D , 5 . 1 F}$ |
|  |  |
|  |  |

## TEKS 5.4C Readiness Standard

generate a numerical pattern when given a rule in the form $y=a x$ or $y=x+a$ and graph

## ITEM

48 Students earned extra points on a science test for correctly answering a bonus question. The relationship between the students' original test score and their final test score, including the extra points, can be represented by the equation $y=x+25$. Which table could represent this relationship?


G



Science Test

J


Item Analysis

| Verb | Generate |
| :---: | :---: |
| Using or <br> Including | Given a Rule <br> $y=x+a$ |


| Concept | Numerical Pattern |
| :---: | :---: |
| Process <br> TEKS | $5.1 \mathrm{~A}, 5.1 \mathrm{~B}, 5.1 \mathrm{D}, 5.1 \mathrm{~F}$ |
| Notes |  |

Notes

TEKS 5.4D Supporting Standard
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

## ITEM

46 The points on the graph represent a numerical pattern.


Which statement about the pattern represented on the graph is true?

F It is a multiplicative pattern because each $y$-coordinate has a higher value than the corresponding $x$-coordinate.
G It is a multiplicative pattern because each $x$-coordinate is multiplied by 5 to create the corresponding $y$-coordinate.
$\mathbf{H}$ It is an additive pattern because each $y$-coordinate has a higher value than the corresponding $x$-coordinate.
J It is an additive pattern because each $x$-coordinate is increased by 4 to create the corresponding $y$-coordinate.

| Item Analysis |  |
| :---: | :---: |
| Verb | Recognize |
| Using or <br> Including | Graph |
| Concept | Numerical Patterns <br> Additive \& Multiplicative |
| Process <br> TEKS | $\mathbf{5 . 1 B}, \mathbf{5 . 1 E}, \mathbf{5 . 1 G}$ |
|  | Notes |

## TEKS 5.4H Readiness Standard

represent and solve problems related to perimeter and/or area and related to volume

## ITEM

17 Phoebe divided her rectangular vegetable garden into three sections, as shown in the drawing below.

|  | Corn |
| :---: | :---: |
| Potatoes | Carrots |
|  |  |

- The potato section is a square with a side length of 7 meters.
- The carrot section is a square with a side length of 5 meters.

What is the area, in square meters, of the corn section of Phoebe's garden?
A 10 square meters
B 14 square meters
C 84 square meters
D 35 square meters

TEKS 5.4H Readiness Standard
represent and solve problems related to perimeter and/or area and related to volume

## ITEM

31 Duane packed some books in a box shaped like a rectangular prism. The volume of the box is 168 cubic inches. Which model could represent Duane's box?
A

C

B

D


| Item Analysis |  |
| :---: | :---: |
| Verb | Represent |
| Using or <br> Including | NA |
| Concept | Volume |
| Process <br> TEKS | 5.1A, 5.1B, 5.1C, 5.1E, <br> $\mathbf{5 . 1 F}$ |
|  | Notes |
|  |  |

## TEKS 5.4H Readiness Standard

represent and solve problems related to perimeter and/or area and related to volume

## ITEM

43 A square has a perimeter of 20 centimeters and an area of 25 square centimeters. Use the ruler provided to measure the line segments below to the nearest centimeter. Which line segment could represent a side of this square?

## A



B $\longmapsto$
C


D $\qquad$

Item Analysis

| Verb | Solve |
| :---: | :---: |
| Using or <br> Including | NA |
| Concept | Perimeter <br> Area |
| Process <br> TEKS | 5.1B, 5.1C, 5.1E, 5.1F |
| Notes |  |

## TEKS 5.5A Readiness Standard

classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties

ITEM
28 Rachel classified shapes based on the types of angles they had. The table shows her classifications.

Angle Types

| $\begin{gathered} \text { Right Angles } \\ \text { Only } \end{gathered}$ | Acute Angles Only | Obtuse Angles Only <br> Only | Both Acute and obtuse Angles |
| :---: | :---: | :---: | :---: |
| Shape 1 | Shape 3 |  <br> Shape 5 | Shape 7 |
| Shape 2 |  | Shape 6 |  <br> Shape 8 |

Which shape was not classified correctly?
F Shape 4
G Shape 5
H Shape 7
J Shape 8

| Item Analysis |  |
| :---: | :---: |
| Verb | Classify |
| Using or <br> Including | Graphic Organizer |
| Concept | Two-Dimensional <br> Figures |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 E , 5 . 1 F}$ |
| Notes |  |

## TEKS 5.5A Readiness Standard

classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties

## ITEM

47 In which table are the check marks placed in all the correct boxes?

A


B


C


D


| Item Analysis |  |
| :---: | :---: |
| Verb | Classify |
| Using or <br> Including | Graphic Organizer |
| Concept | Two-Dimensional <br> Figures |
| Process <br> TEKS | $\mathbf{5 . 1 B}, \mathbf{5 . 1 E}, \mathbf{5 . 1 F}$ |
| Notes |  |

## TEKS 5.6A Supporting Standard

recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes ( $n$ cubic units) needed to fill it with no gaps or overlaps if possible

## ITEM

3 Rebekah is filling a cube-shaped box with small cubes. The volume of each of these cubes is 1 cubic centimeter. She has already put some of these cubes into the box, as shown in the model.


What is the total number of small cubes that will fit in the box?

A 729
B 81
C 36
D 27

| Item Analysis |  |  |
| :---: | :---: | :---: |
| Verb | Recognize |  |
| Using or <br> Including | Unit Cube |  |
| Concept | Volume |  |
| Process <br> TEKS | 5.1A, 5.1B, 5.1C, 5.1E, <br> 5.1F |  |
| Notes |  |  |
|  |  |  |

## TEKS 5.6B Supporting Standard

determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base

## ITEM

12 Raymond used 42 cubes to build the first layer of a rectangular prism. The edge length of each cube was 1 inch. The finished prism had a total of 7 layers. What is the volume of Raymond's prism in cubic inches?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

| Item Analysis |  |
| :---: | :---: |
| Verb | Determine |
| Using or <br> Including | Rectangular Prism <br> Whole Number Sides |
| Concept | Volume |
| Process <br> TEKS | 5.1A, 5.1B, 5.1C, 5.1F |
|  | Notes |

## TEKS 5.7A Supporting Standard

solve problems by calculating conversions within a measurement system, customary or metric

## ITEM

7 The lengths of two insects are given below.

- Ladybug: 10 millimeters
- Walking stick: 30 centimeters

What is the difference in length of these two insects in millimeters?

A 70 mm
B 20 mm
C 290 mm
D $2,990 \mathrm{~mm}$

| Item Analysis |  |
| :---: | :---: |
| Verb | Solve |
| Using or <br> Including | Metric Measurement <br> System |
| Concept | Calculating Conversions |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 \mathbf { C } , \mathbf { 5 . 1 F }}$ |
| Notes |  |

## TEKS 5.8A Supporting Standard

describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point ( 0,0 ); the $x$-coordinate, the first number in an ordered pair, indicates movement parallel to the $x$-axis starting at the origin; and the $y$-coordinate, the second number, indicates movement parallel to the $y$-axis starting at the origin

## ITEM

40 A student graphs a point that is represented by the ordered pair $(3,0)$. In this ordered pair, what does the number 3 indicate?

F The point is 3 units above 0 on the $x$-axis.
G The point is 3 units above 0 on the $y$-axis.
$\mathbf{H}$ The point is 3 units to the right of 0 on the $y$-axis.
J The point is 3 units to the right of 0 on the $x$-axis.

| Item Analysis |  |
| :---: | :---: |
| Verb | Describe |
| Using or <br> Including | Coordinate Plane |
| Concept | Graphing an Ordered <br> Pair |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , \mathbf { 5 . 1 G }}$ |
|  | Notes |

TEKS 5.8C Readiness Standard
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and realworld problems, including those generated by number patterns or found in an input-output table

## ITEM

15 The ordered pairs below represent the location of four people.


Paula is located at (7, 7). Based on this information, which statement is true?

A Paula is located 1 unit south and 2 units east from Nathan.
B Paula is located 7 units east from Wade.
C Paula is located 3 units south and 2 units west from Denise.
D Paula is located 6 units west from Urvasi.

| Item Analysis |  |
| :---: | :---: |
| Verb | Graph |
| Using or <br> Including | Real-World |
| Concept | Ordered Pair |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 E , 5 . 1 G}$ |
| Notes |  |
|  |  |

## TEKS 5.8C Readiness Standard

graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and realworld problems, including those generated by number patterns or found in an input-output table

## ITEM

26 A table of ordered pairs is shown.

| $x$ | $2 \frac{1}{2}$ | $3 \frac{1}{2}$ | $4 \frac{1}{2}$ | $5 \frac{1}{2}$ | $6 \frac{1}{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $r$ | 5 | 7 | 9 | 11 | 13 |

Which graph represents these ordered pairs?



| Item Analysis |  |
| :---: | :---: |
| Verb | Graph |
| Using or <br> Including | Input-Output Table |
| Concept | Ordered Pair |
| Process <br> TEKS | $\mathbf{5 . 1 B , 5 . 1 D , 5 . 1 F}$ |
|  | Notes |

TEKS 5.8C Readiness Standard
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and realworld problems, including those generated by number patterns or found in an input-output table

ITEM
36 The ordered pairs below represent three vertices of a rhombus.

| Item Analysis |  |
| :---: | :---: |
| Verb | Graph |
| Using or <br> Including | Real-World |
| Concept | Ordered Pair |
| Process <br> TEKS | $\mathbf{5 . 1 B}, \mathbf{5 . 1 E}, 5.1 \mathrm{~F}$ |
| Notes |  |

Which ordered pair could represent the fourth vertex of this rhombus?

| $\mathbf{F}$ | $(7,2)$ |
| :--- | :--- |
| $\mathbf{G}$ | $(9,7)$ |
| $\mathbf{H}$ | $(2,9)$ |
| $\mathbf{J}$ | $(2,7)$ |

## TEKS 5.9B Supporting Standard

represent discrete paired data on a scatterplot

11 The table shows the high temperatures and the numbers of snow cones sold at a snack bar on seven days.

| High Temperature <br> $\left({ }^{\circ} \mathrm{F}\right)$ | Number Sold |
| :---: | :---: |
| 92 | 25 |
| 85 | 30 |
| 90 | 28 |
| 87 | 22 |
| 95 | 32 |
| 93 | 30 |
| 92 | 40 |

Which scatterplot best represents the data in the table?
A

C

B

D


| Item Analysis |  |
| :---: | :---: |
| Verb | Represent |
| Using or <br> Including | NA |
| Concept | Scatterplot |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 D , 5 . 1 F}$ |
| Notes |  |

## TEKS 5.9C Readiness Standard <br> solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot

## ITEM

19 The stem and leaf plot shows the scores of eight people at a dance contest.

Dance Contest Scores

| Stem | Leaf |
| :---: | :--- |
| 6 | 899 |
| 7 | 5 |
| 8 | 27 |
| 9 | 57 |
| $6 / 8$ means 6.8. |  |

What is the difference between the highest score and the lowest score?

| Item Analysis |  |
| :---: | :---: |
| Verb | Solve |
| Using or <br> Including | Stem-Leaf Plot |
| Concept | One-Step Problem Using <br> Data |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 E , 5 . 1 F}$ |
| Notes |  |

## ITEM

$29 \begin{aligned} & \text { The dot plot shows the numbers of pets that the stu } \\ & \text { class own. }\end{aligned}$ Numbers of Pets Owned by Students
What fraction of the students in this class have two or more pets?
A $\frac{1}{3}$
B $\frac{7}{24}$
C $\frac{2}{3}$
D $\frac{3}{8}$


The number of bags of Brand Y dog food sold on these five days was 175. Which bar represents the data for Day 5 for Brand Y ?




## ITEM

45 A definition of a financial term is shown in the box.

> A tax on retail products based on a set percentage of retail cost

Which term best fits this definition?
A Income tax
B Payroll tax
C Property tax
D Sales tax


Category 1
Numerical Representations and Relationships 8 Total Questions

| TEKS | Item | Correct Answer | Process TEKS |
| :---: | :---: | :---: | :---: |
| 5.2A represent the value of the digit in decimals through the thousandths using expanded notation and numerals | 5 | B | 5.1A, 5.1B, 5.1D, 5.1F |
| compare and order two decimals to thousandths and represent comparisons using the symbols $>,<$, or $=$ | 8 | F | 5.1A, 5.1B, 5.1E, 5.1F |
|  | 23 | D | 5.1A, 5.1B, 5.1F |
|  | 34 | J | $5.1 \mathrm{~A}, 5.1 \mathrm{~B}, 5.1 \mathrm{~F}$ |
| 5.2C round decimals to tenths or hundredths | 1 | D | 5.1A, 5.1B, 5.1F |
| 5.4A identify prime and composite numbers | 20 | F | 5.1A, 5.1B, 5.1F |
| 5.4 E describe the meaning of parentheses and brackets in a numeric expression | NT |  |  |
| simplify numerical expressions that do not involve exponents, including up to two levels of grouping | 25 | 52,5 | 5.1A, 5.18, 5.1F |
|  | 49 | B | 5.1B, 5.1F |

Shaded - Readiness TEKS, NT - Not Tested
Readiness TEKS - 5/8 questions

# Category 2 <br> Computations and Algebraic Relationships 24 Total Questions 

| TEKS | Item | Correct Answer | Process TEKS |
| :---: | :---: | :---: | :---: |
| 5.3A estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division | 2 | H | 5.1A, 5.1B, 5.1C, 5.1F |
| 5.3B multiply with fluency a three-digit number by a twodigit number using the standard algorithm | 27 | D | 5.1A, 5.1B, 5.1F |
| 5.3C solve with proficiency for quotients of up to a fourdigit dividend by a two-digit divisor using strategies and the standard algorithm | 33 | C | 5.1A, 5.1B, 5.1F |
| 5.3D represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models | 42 | H | 5.1A, 5.1B, 5.1D, 5.1F |
| solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers | 9 | B | 5.1A, 5.1B. 5.1F |
|  | 39 | C | $5.1 \mathrm{~A}, 5.1 \mathrm{~B}, 5.1 \mathrm{~F}$ |
| 5.3F represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models | 10 | H | 5.1B, 5.1D, 5.1F |
| solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm | 4 | H | 5.1A, 5.1B, 5.1F |
|  | 44 | G | 5.1B, 5.1F |
| 5.3H represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations | 6 | F | 5.1A, 5.1B, 5.1E, 5.1F |
| 5.3I represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models | 50 | J | 5.1B, 5.1D, 5.1F |
| 5.3J represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1 / 3 \div 7$ and $7 \div 1 / 3$ using objects and pictorial models, including area models | 21 | B | 5.1B, 5.1D, 5.1F |
| add and subtract positive rational numbers fluently | 18 | F | 5.1A, 5.1B, 5.1F |
|  | 24 | F | 5.1A, 5.1B, 5.1E, 5.1F |
|  | 35 | A | 5.1A, 5.1B, 5.1F |
| divide whole numbers by unit fractions and unit fractions by whole numbers | 13 | C | 5.1A, 5.1B, 5.1F |
|  | 37 | 128 | 5.1A, 5.1B, 5.1F |
| epresent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity | 14 | J | 5.1A, 5.1B, 5.1酎, 5.1F |
|  | 30 | F | 5.1A, 5.1B, 5.1E, 5.1F |
|  | 41 | B | 5.1A, 5.1B, 5.1F |
| generate a numerical pattern when given a rule in the form $y=a x$ or $y=x+a$ and graph | 16 | G | 5.1B, 5.1D, 5.1F |
|  | 32 | G | 5.1A, 5.1B, 5.1D, 5.1F |
|  | 48 | F | 5.1A, 5.1B, 5.1D, 5.1F |
| 5.4D recognize the difference between additive and multiplicative numerical patterns given in a table or graph | 46 | J | 5.1B, 5.1E, 5.1G |

Shaded - Readiness TEKS, NT - Not Tested
Readiness TEKS - 15/24 questions

## Category 3 <br> Geometry and Measurement 12 Total Questions

| TEKS | Item | Correct | Process TEKS |
| :--- | :---: | :---: | :---: |
| Answer |  |  |  | (

Shaded - Readiness TEKS, NT - Not Tested
Readiness TEKS - 8/12 questions

Category 4
Data Analysis and Personal Finance 6 Total Questions

| TEKS | Item | Correct Answer | Process TEKS |
| :---: | :---: | :---: | :---: |
| 5.9A represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots | NT |  |  |
| 5.9B represent discrete paired data on a scatterplot | 11 | A | 5.1A, 5.1B, 5.1D, 5.1F |
| 5.9C solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot | 19 | C | 5.1A, 5.1B, 5.1E, 5.1F |
|  | 29 | C | 5.1A, 5.1B, 5.1E, 5.1F |
|  | 38 | G | 5.1A, 5.1B, 5.1E, 5.1F |
| 5.10A define income tax, payroll tax, sales tax, and property tax | 45 | D | 5.1G |
| 5.10B explain the difference between gross income and net income | NT |  |  |
| 5.10E describe actions that might be taken to balance a budget when expenses exceed income | NT |  |  |
| 5.10F balance a simple budget | 22 | F | 5.1A, 5.1B, 5.1E, 5.1F |

Shaded - Readiness TEKS, NT - Not Tested
Readiness TEKS - 3/6 questions

