# Fifth Grade Mathematics 

## 2018 Released Items Analysis

Teacher:

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## 5th Grade Mathematies

## Released Items

Name: $\qquad$

Teacher: $\qquad$

Date: $\qquad$
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Instructional Analysis 2018 Released Test



| ITEM <br> 2 Which comparison is NOT true? | Item Analysis |
| :---: | :---: |
|  | Verb Compare |
| $\begin{array}{ll} \text { G } & 6.875<6.9 \\ \text { H } & 2.65>2.675 \end{array}$ | Using or <br> Including Symbols |
| J $7.675<7.75$ | Concept Decimals to <br> Thousandths Place |
|  | Process <br> TEKS$\quad$ 5.1B, 5.1F |
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## ITEM

30 Elias has three containers of cooking oil. The table shows the volume of cooking oil in each container.

| Elias's Cooking Oil |  |
| :---: | :---: |
| Container | Volume <br> (L) |
| $X$ | 0.946 |
| $Y$ | 0.502 |
| $Z$ | 1.42 |

Which list shows the containers in order from least to greatest volume in liters?

F Container X, Container Y, Container Z
G Container Y, Container $X$, Container $Z$
H Container $Z$, Container $Y$, Container $X$
J Container Z, Container $X$, Container $Y$

| Item Analysis |  |
| :---: | :---: |
| Verb | Order |
| Using or Including | Thousandths |
| Concept | Decimals |
| Process TEKS | 5.1A, 5.1B, 5.1F |
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## TEKS 5.4A Supporting Standard <br> identify prime and composite numbers

## ITEM

15 Four students each wrote down a number between 30 and 40 . The list shows the numbers they wrote.

- Elly-35
- Ulysses-39
- Maggie-37
- Palmer-33

Which student wrote down a prime number?

A Elly
B Ulysses
C Maggie
D Palmer

| Item Analysis |  |
| :---: | :---: |
| Verb | Identify |
| Using or Including | NA |
| Concept | Prime and Composite |
| Process TEKS | 5.1A, 5.1B, 5.1F |
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TEKS 5.4F Readiness Standard
simplify numerical expressions that do not involve exponents, including up to two levels of grouping

ITEM
27 A chef used $\frac{1}{4}$ cup of mile for one recipe. Then she used 2 cups of milk for each of 5 more recipes. The total number of cups of milk the chef used can be found by using this expression.

$$
\frac{1}{4}+(2 \times 5)
$$

How many cups of milk did the chef use?

A $\quad 10 \frac{1}{4} \mathrm{C}$
B $11 \frac{1}{4} \mathrm{C}$
C $\quad \frac{11}{4} \mathrm{c}$
D $\frac{15}{4} \mathrm{c}$

| Item Analysis |  |
| :---: | :---: |
| Verb | Simplify |
| Using or Including | Two Levels of Grouping |
| Concept | Numerical Expressions |
| Process TEKS | 5.1A, 5.1B, 5.1E, 5.1F |
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| TEKS 5.3A Supporting Standard estimate to determine solutions to mathematical and real-world problems involv multiplication, or division | volving addition, subtraction, |
| :---: | :---: |
| ITEM | Item Analysis |
| each, and the belts cost \$8.97 each. Paula has \$45. | Verb Estimate |
| Which of these amounts is the best estimate of how much more money Paula need to order to buy the shirts and belts? | Using or Addition, Multiplication, <br> Including and Subtraction |
| A $\$ 16$ | Concept Determine Solutions |
| B $\$ 10$ |  |
| C $\$ 24$ <br> D $\$ 5$ | Process TEKS |
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## TEKS 5.3B Supporting Standard

solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm

ITEM
20 Shauna is reading a 528 page book. She reads 22 pages every day. How many days will take Shauna to read the entire book?

F 5.6
G 26
H 24
J 550

| Item Analysis |  |
| :---: | :---: |
| Verb | Division |
| Using or Including | Standard Algorithm |
| Concept | Three-Digit by Two-Digit |
| Process TEKS | 5.1A, 5.1B, 5.1F |
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solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm

## ITEM

10 George bought 3 peppers for a cost of $\$ 0.40$ each. The model represents this situation.


Which equation shows how to find the total cost in dollars and cents of the peppers George bought?

| Item Analysis |  |
| :---: | :---: |
| Verb | Solve |
| Using or <br> Including | Strategies |
| Concept | Quotients |
| Process <br> TEKS | 5.1A, 5.1B, 5.1E, 5.1F |
| Provided by: |  |

F $3 \times 4=12.00$
G $3 \times 40=120.00$
H $3 \times 0.40=1.20$
J $3 \times 0.40=0.12$
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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

7 One bucket of gravel has a mass of 7.05 kg . What is the mass of 20 buckets of gravel in kilograms?

A 14.1 kg
B $\quad 150 \mathrm{~kg}$
C $\quad 27.05 \mathrm{~kg}$
D 141 kg

| Item Analysis |  |
| :---: | :---: |
| Verb | Solve |
| Using or Including | Strategies |
| Concept | Products to the Hundredths |
| Process TEKS | 5.1A, 5.1B, 5.1F |
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## TEKS 5.3F Supporting Standard <br> 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

## ITEM

23 Mark has \$5.25 quarters. He spent all this money on 3 sport drinks. He spent the same amount for each sports drink.


Which equation can be used to find the amount of money Mark spent for each sports drink?

A $5.25 \times 3=15.75$
B $5.25 \div 7=0.75$
C $5.25 \div 3=1.75$
D $5.25 \times 7=36.75$

| Item Analysis |  |
| :---: | :---: |
| Verb | Represent |
| Using or Including | Pictorial Model |
| Concept | Quotients of Decimals |
| Process TEKS | 5.1A, 5.1B, 5.1E, 5.1F |
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TEKS 5.3G Readiness Standard
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
35 The weight of sane in a large bag in 63.4 pounds. The sand in the bag is divided equally into 20 small bags.

What is the weight in pounds of the sand in each small bag?
A 3.114 lb
B 3.107 lb
C 31.7 lb
D 3.17 lb

| Item Analysis |  |
| :---: | :---: |
| Verb | Solve |
| Using or Including | Standard Algorithms |
| Concept | Quotients of Decimals |
| Process TEKS | 5.1A, 5.1B, 5.1F |
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## TEKS 5.3K Readiness Standard <br> add and subtract positive rational numbers fluently

## ITEM

14 Ella finished a bike race in 37.6 minutes. Miranda finished the race in $9 \frac{1}{10}$ minutes sooner than Ella finished it. How many minutes did it take Miranda to finish the race?

F 32.5 minutes
G 46.7 minutes
H 28.59 minutes
J Not here

| Item Analysis |  |
| :---: | :---: |
| Verb | Subtract |
| Using or <br> Including | Fluently |
| Concept | Positive Rational <br> Numbers |
| Process <br> TEKS | 5.1A, 5.1B, 5.1F |
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## 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

18 A family spent \$93 at a carnival.

- They spent $\$ 18$ on tickets to the carnival and $\$ 36$ on food.
- They spent the rest of the money on games.

Which equation can be used to find $g$, the amount of money in dollars the family spent on games?

F $93=g+36-18$
G $93=18+36-g$
H $93=36-18-g$
J $93=g+36+18$

| Item Analysis |  |
| :---: | :---: |
| Verb | Represent |
| Using or <br> Including | Equations with letter for <br> the unknown |
| Concept | Addition and Subtraction |
| Process <br> TEKS | $\mathbf{5 . 1 A}, \mathbf{5 . 1 B}, \mathbf{5 . 1 D}, \mathbf{5 . 1 F}$ |
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## 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

31 Mr. Fernández packed 31 red apples and 41 green apples into a box for a customer. He packed 8 boxes like this. Mr. Fernández used this equation to find $x$, the number of apples he packed into all the boxes.

$$
x=(31+41) 8
$$

How many apples did Mr. Fernández pack into the boxes?

A 576
B 568
C 80
D $\mathbf{1 0 , 1 6 8}$

| Item Analysis |  |
| :---: | :---: |
| Verb | Solve |
| Using or Including | Equation <br> Letter for the Unknown |
| Concept | Multi-Step Problem |
| $\begin{aligned} & \text { Process } \\ & \text { TEKS } \end{aligned}$ | 5.1A, 5.1B, 5.1E, 5.1F |
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## 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

3 The graph shown represents the rule $y=x+1.5$


Which table contains only values that represent the rule?
A

| $x$ | 0 | 1 | 2 | 3 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $y$ | 0 | 1.5 | 3 | 4.5 | 6 |

C

| x | 0 | 1 | 2 | 3 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $y$ | 1.5 | 3 | 4.5 | 6 | 7.5 |

B

| $x$ | 0 | 1 | 2 | 3 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $y$ | 0 | 1.5 | 3 | 4.5 | 13.5 |

D

| $x$ | 0 | 1 | 2 | 3 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $y$ | 1.5 | 2.5 | 3.5 | 4.5 | 10.5 |

Item Analysis

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

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## ITEM

33 The table represents a relationship between $x$ and $y$.

| $x$ | $y$ |
| ---: | :---: |
| 5 | 22 |
| 10 | 27 |
| 15 | 32 |
| 20 | 37 |

The relationship between the $x$-values and $y$-values creates a pattern that is -

A additive, because each $x$-value increases by 5
B additive, because each $y$-value is determined by adding 17 to the corresponding $x$-value
C multiplicative, because each $y$-value is determined by multiplying the corresponding $x$-value by 17
D multiplicative, because each $x$-value is a multiple of 5

ITEM

| Item Analysis |  |
| :---: | :---: |
| Verb |  |
| Using or Including |  |
| Concept |  |
| Process TEKS |  |
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| TEKS 5.4H Readiness Standard represent and solve problems related to perimeter and/or area and relate | volume |
| :---: | :---: |
| ITEM <br> 4 Priscilla built a cabinet shaped like a rectangular prism. The length of the base is 9 inches, and the width is 40 inches. <br> What is the area of the base of the cabinet in square inches? | Item Analysis |
|  | Verb Solve |
|  | Using or <br> Including$\quad$ NA |
| G 360 square inches | Concept Area |
| J Not here | Process TEKS $\quad$ 5.1A, 5.1B, 5.1F |
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TEKS 5.4H Readiness Standard
represent and solve problems related to perimeter and/or area and related to volume

## ITEM

28 A hexagon and its side lengths are shown


What is the perimeter of the hexagon in feet?
Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

| Item Analysis |  |
| :---: | :---: |
| Verb | Solve |
| Using or Including | NA |
| Concept | Volume |
| Process TEKS | 5.1B, 5.1E, 5.1F |
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## 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

| 9 This graphic organizer is being used to classify trian |
| :--- |
| their angle measure of side lengths. |
| $\qquad$$\begin{array}{l}\text { Angle Measure } \\ \text { Classification }\end{array}$    $\begin{array}{l}\text { Side Length } \\ \text { Classification }\end{array}$  <br> Acute Right obtuse Isosceles Equilateral  Scalene |

Which list shows all of the ways this triangle could be classified?


8 cm

Item Analysis

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

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A Acute only
B Equilateral only
C Acute and isosceles only
D Acute, isosceles, and equilateral only
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## 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

26 The Venn diagram is being used to classify two types of quadrilaterals.


Which type of figure will always belong in the shaded section of this Venn diagram?

| Item Analysis |  |
| :---: | :---: |
| Verb | Classify |
| Using or Including | Graphic Organizer |
| Concept | Two-Dimensional Figures |
| Process TEKS | 5.1A, 5.1B, 5.1E, 5.1F |
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TEKS 5.7A Supporting Standard
solve problems by calculating conversions within a measurement system, customary or metric

## ITEM

24 The length of one wall in Mr. Shelby's classroom is 29 feet. What is the length of this wall in inches?

F 348 in.
G 242 in .
H 338 in.
J 248 in .

| Item Analysis |  |
| :---: | :---: |
| Verb | Solve |
| Using or <br> Including | Conversions |
| Concept | Customary |
| Process <br> TEKS | 5.1A, 5.1B, 5.1C, 5.1F |
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describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane

## ITEM

11 A student will graph the point $(5,3)$ on a coordinate grid. Which steps can the student take in order to graph the point correctly?

A Start at the origin. Move 5 units up. Move 3 units right. Graph the point.
B Start at the origin. Move 5 units right. Move 3 units right. Graph the point.
C Start at the origin. Move 5 units up. Move 3 units up. Graph the point.
D Start at the origin. Move 5 units right. Move 3 units up. Graph the point.

| Item Analysis |  |
| :---: | :---: |
| Verb | Describe |
| Using or <br> Including | Coordinate Plane |
| Concept | Graphing a Point |
| Process <br> TEKS | $\mathbf{5 . 1 A}, \mathbf{5 . 1 B}, \mathbf{5 . 1 F}$ |
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## 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
17 The graph shows three of the four vertices of parallelogram $V W X Y$.


At which location on the coordinate grid could point $Y$ be located?

A $(1.5,6.5)$
B $(6.5,2)$
C $(6.5,1.5)$
D $(2,6.5)$

Item Analysis

| Verb | Graph |
| :---: | :---: |
| Using or <br> Including | Real-World Problems |
| Concept | First Quadrant |
| Process <br> TEKS | $\mathbf{5 . 1 A , 5 . 1 B , 5 . 1 E , 5 . 1 F}$ |
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## ITEM

36 Henry used a number machine to create ordered pairs of numbers. Each number he put into the machine, $x$, came out as a different number, $y$, based on a rule. Some ordered pairs from Henry's machine are shown.


Which graph best represents the ordered pairs from Henry's number machine?



J


Item Analysis

| Verb | Graph |
| :---: | :---: |
| Using or |  |

Input-Output Table Including

| Concept | First Quadrant |
| :---: | :---: |
| Process <br> TEKS | $\mathbf{5 . 1 A}, \mathbf{5 . 1 B}, \mathbf{5 . 1 D}, \mathbf{5 . 1 F}$ |

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ITEM

| Item Analysis |  |
| :---: | :---: |
| Verb |  |
| Using or Including |  |
| Concept |  |
| Process TEKS |  |
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## ITEM

32 Which of these is NOT an example of a property tax?
F Tax pain on the value of a farm a person owns
G Tax paid on the value of a piece of land a person owns
H Tax paid on the value of a piece of furniture a person owns
J Tax paid on the value of a home a person owns

| Item Analysis |  |
| :---: | :---: |
| Verb | Define |
| Using or <br> Including | NA |
| Concept | Property Tax |
| Process <br> TEKS | $\mathbf{5 . 1 F}$ |

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TEKS 5.10F Supporting Standard
balance a simple budget

## ITEM

6 Wanda's net income for the month of April was $\$ 2,438$. The table shows her April budget except for an amount in the "Other" category.

| April Budget |  |
| :--- | :---: |
| Category | Amount <br> (dollars) |
| Rent | 1,000 |
| Utilities | 285 |
| Food | 325 |
| Transportation | 275 |
| Other |  |
| Savings | 450 |

What amount, in dollars and cents, should be in the "Other" category in order for Wanda's budget to be balanced?

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

| Item Analysis |  |
| :---: | :---: |
| Verb | Balance |
| Using or <br> Including | NA |
| Concept | Simple Budget |
| Process <br> TEKs | 5.1A, 5.1B, 5.1E, 5.1F |
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Category 1
Numerical Representations and Relationships
6 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 | 22 | 9.1 | 5.1A, 5.1B, 5.1F |
| compare and order two decimals to thousandths and represent comparisons using the symbols $>$, <, or = | 2 | H | 5.13, 5.1F |
|  | 30 | G | $5.1 \mathrm{~A}, 5.1 \mathrm{~B}, 5.1 \mathrm{~F}$ |
| 5.2C round decimals to tenths or hundredths | NT |  |  |
| 5.4A identify prime and composite numbers | 15 | C | 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 | 12 | $F$ | 5.1B, 5.1 F |
|  | 27 | A | 5.1A, 5.1B, 5.1E, 5.1F |

Shaded - Readiness TEKS, NT - Not Tested
Readiness TEKS - 4/6 questions

# Category 2 <br> Computations and Algebraic Relationships <br> 17 Total Questions 

| TEKS | Item | Correct |
| :--- | :---: | :---: | :---: |
| Answer |  |  | Process TEKS $\mid$ (

Shaded - Readiness TEKS, NT - Not Tested Readiness TEKS - 12/17 questions

# Category 3 <br> Geometry and Measurement 9 Total Questions 

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

Shaded - Readiness TEKS, NT - Not Tested
Readiness TEKS - 6/9 questions

Category 4
Data Analysis and Personal Finance 4 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 | NT |  |  |
| 5.9C solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot | 8 | H | 5.1A, 5.1B, 5.1E, 5.1F |
|  | 34 | H | $5.1 \mathrm{~A}, 5.1 \mathrm{~B}, 5.1 \mathrm{E}, 5.1 \mathrm{~F}$ |
| 5.10A define income tax, payroll tax, sales tax, and property tax | 32 | H | 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 | 6 | 103 | 5.1A, 5.1B, 5.1E, 5.1F |

Shaded - Readiness TEKS, NT - Not Tested
Readiness TEKS - 2/4 questions

