

2007

Green River
*Regional Educational
Cooperative*

GRADE 4
MATHEMATICS

MULTIPLE CHOICE



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Multiple Choice Item 1

Standard: MA-04-1.1.1: Number Sense — Students will:

- apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, expanded form, symbols) to represent whole numbers (0 to 99,999);
- apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, symbols) to describe commonly used fractions through tenths and decimals through hundredths;
- apply these numbers to represent real-world problems and
- explain how the base 10 number system relates to place value.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: B

Portion of Standard Being Addressed
This item requires the student to explain how the base 10 number system relates to place value.

1. Think about the **smallest** possible 4-digit number that can be made using the number tiles **6, 2, 9, and 3**. Which number would be in the **hundreds** place?
 - A. 2
 - B. 3
 - C. 6
 - D. 9

Multiple Choice Item 2

Standard: MA-04-1.3.1: Number Operations — Students will analyze real-world problems to identify appropriate representations using mathematical operations, and will apply operations to solve real-world problems with the following constraints:

- add and subtract whole numbers with four digits or less;
- multiply whole numbers with two digits or less;
- divide whole numbers with three digits or less by single-digit divisors (with or without remainders);
- add and subtract fractions with like denominators less than or equal to 10 and
- add and subtract decimals through hundredths.

Bloom's Taxonomy
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Depth of Knowledge
Level 1
Level 2
Level 3
Level 4

Answer Key: C

Portion of Standard Being Addressed
This item requires the student to use multiple operations on whole numbers to solve real-world problems.

2. Brian wants to buy a new bicycle that costs \$90. He earned \$8 per hour raking leaves for his neighbors. Brian raked leaves for 7 hours. How much more money does he need to earn to buy the bicycle?
- A. \$56
 - B. \$46
 - C. \$34
 - D. \$13

Multiple Choice Item 3

Standard: MA-04-1.1.1: Number Sense — Students will:

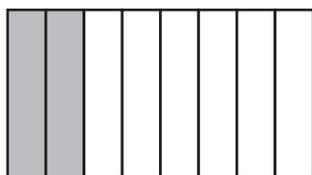
- apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, expanded form, symbols) to represent whole numbers (0 to 99,999):
- apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, symbols) to describe commonly used fractions through tenths and decimals through hundredths;
- apply these numbers to represent real-world problems and
- explain how the base 10 number system relates to place value.

Bloom's Taxonomy
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Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: C

Portion of Standard Being Addressed
This item requires the student to apply multiple representations to describe commonly used fractions through tenths.

3. Look at the figure below.



What fraction is modeled by the shaded part of this figure?

- A. $\frac{1}{8}$
- B. $\frac{1}{6}$
- C. $\frac{1}{4}$
- D. $\frac{1}{3}$

Multiple Choice Item 4

Standard: MA-04-1.1.2: Number Sense — Students will read, write and rename whole numbers, fractions and decimals, and apply to real-world and mathematical problems.

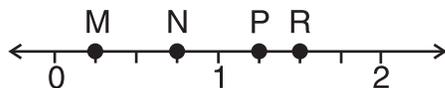
Bloom's Taxonomy
Knowledge
Comprehension
Application
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Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4

Answer Key: C

Portion of Standard Being Addressed
This item requires the student to read and rename decimals.

4. Use the graph below to answer the question.



Which point represents 1.25 on the graph?

- A. point M
- B. point N
- C. point P
- D. point R

Multiple Choice Item 5

Standard: MA-04-1.1.2: Number Sense — Students will read, write and rename whole numbers, fractions and decimals, and apply to real-world and mathematical problems.

Bloom's Taxonomy
Knowledge
Comprehension
Application
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Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4

Answer Key: C

Portion of Standard Being Addressed
This item requires the student to write whole numbers.

5. The number of hot dogs sold last week at Comerica Park was 214,061. What is this number in words?
- A. twenty-one thousand four hundred sixty-one
 - B. two hundred one thousand four hundred sixty-one
 - C. two hundred fourteen thousand sixty-one
 - D. two hundred fourteen thousand six hundred ten

Multiple Choice Item 6

Standard: MA-04-1.1.3: Number Sense — Students will compare ($<$, $>$, $=$) and order whole numbers, commonly used fractions and decimals, and explain the relationships (equivalence, order) between and among them.

Bloom's Taxonomy	Depth of Knowledge	Portion of Standard Being Addressed
Knowledge	Level 1	This item requires the student to compare two whole numbers.
Comprehension	Level 2	
Application	Level 3	
Analysis	Level 4	
Synthesis		
Evaluation		
Answer Key: B		

6. What sign belongs in the circle to make the number sentence true?

$$80 \div 4 \quad \bigcirc \quad 4 \times 6$$

- A. $>$
- B. $<$
- C. $=$
- D. none of these signs

Multiple Choice Item 7

Standard: MA-04-1.1.3: Number Sense — Students will compare (<, >, =) and order whole numbers, commonly used fractions and decimals, and explain the relationships (equivalence, order) between and among them.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: B

Portion of Standard Being Addressed
This item requires the student to compare and order commonly used fractions.

7. Which group of fractions is ordered from **least** to **greatest**?

- A. $\frac{1}{4}, \frac{1}{5}, \frac{1}{3}$
- B. $\frac{1}{5}, \frac{1}{4}, \frac{1}{3}$
- C. $\frac{1}{4}, \frac{1}{3}, \frac{1}{5}$
- D. $\frac{1}{3}, \frac{1}{4}, \frac{1}{5}$

Multiple Choice Item 8

Standard: MA-04-1.2.1: Estimation — Students will apply and describe appropriate strategies for estimating quantities of objects and computational results.

Bloom's Taxonomy
Knowledge
Comprehension
Application
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Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: B

Portion of Standard Being Addressed
This item requires students to apply appropriate estimating strategies to find a product of two numbers in a real-world problem.

8. The 21 boys in Jerry's scout troop went to Farson for ice cream cones. An ice cream cone costs \$2.79. If each boy gets an ice cream cone, which is the **best** estimate for the total cost?
- A. \$72
 - B. \$60
 - C. \$40
 - D. \$22

Multiple Choice Item 9

Standard: MA-04-1.2.1: Estimation — Students will apply and describe appropriate strategies for estimating quantities of objects and computational results.

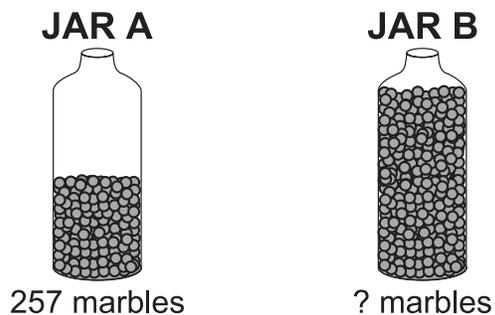
Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4

Answer Key: C

Portion of Standard Being Addressed
This item requires the student to apply appropriate strategies for estimating quantities of objects.

9. Use the picture below to answer the question.



Which is the **best estimate** for the number of marbles in Jar B?

- A. 250
- B. 400
- C. 500
- D. 650

Multiple Choice Item 10

Standard: MA-04-1.2.1: Estimation — Students will apply and describe appropriate strategies for estimating quantities of objects and computational results.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: B

Portion of Standard Being Addressed
This item requires the student to apply appropriate strategies for estimating computational results.

10. The third-, fourth-, and fifth-grade classes at Hope Elementary School need to sell a total of 1,000 candy bars. The chart below shows how many candy bars they have sold so far.

Candy Bars Sold	
Grade 3	300
Grade 4	150
Grade 5	205

About how many more candy bars do they need to sell to meet the goal of 1,000 candy bars?

- A. 400
- B. 350
- C. 300
- D. 250

Multiple Choice Item 11

Standard: MA-04-1.2.1: Estimation — Students will apply and describe appropriate strategies for estimating quantities of objects and computational results.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: C

Portion of Standard Being Addressed
This item requires the student to apply appropriate strategies for estimating computational results.

11. Each library shelf holds about 18 books. About how many books can be held on 5 shelves?

- A. 20
- B. 40
- C. 100
- D. 120

Multiple Choice Item 12

Standard: MA-04-1.3.1: Number Operations — Students will analyze real-world problems to identify appropriate representations using mathematical operations, and will apply operations to solve real-world problems with the following constraints:

- add and subtract whole numbers with four digits or less;
- multiply whole numbers with two digits or less;
- divide whole numbers with three digits or less by single-digit divisors (with or without remainders);
- add and subtract fractions with like denominators less than or equal to 10 and
- add and subtract decimals through hundredths.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: A

Portion of Standard Being Addressed
This item requires the student to subtract decimals through hundredths to solve real-world problems.

12. Brian had \$5.00. He spent \$2.87 for lunch. How much does he have left?

- A. \$2.13
- B. \$3.12
- C. \$3.13
- D. \$3.23

Multiple Choice Item 13

Standard: MA-04-1.3.1: Number Operations — Students will analyze real-world problems to identify appropriate representations using mathematical operations, and will apply operations to solve real-world problems with the following constraints:

- add and subtract whole numbers with four digits or less;
- multiply whole numbers with two digits or less;
- divide whole numbers with three digits or less by single-digit divisors (with or without remainders);
- add and subtract fractions with like denominators less than or equal to 10 and
- add and subtract decimals through hundredths.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: C

Portion of Standard Being Addressed
This item requires the student to divide whole numbers with three digits or less by single-digit divisors to solve real-world problems.

13. There are 84 students marching in a parade. They are marching in rows of 6 students. How many rows of students are there?
- A. 6
 - B. 13
 - C. 14
 - D. 21

Multiple Choice Item 14

Standard: MA-04-1.3.1: Number Operations — Students will analyze real-world problems to identify appropriate representations using mathematical operations, and will apply operations to solve real-world problems with the following constraints:

- add and subtract whole numbers with four digits or less;
- multiply whole numbers with two digits or less;
- divide whole numbers with three digits or less by single-digit divisors (with or without remainders);
- add and subtract fractions with like denominators less than or equal to 10 and
- add and subtract decimals through hundredths.

Bloom's Taxonomy	Depth of Knowledge	Portion of Standard Being Addressed
Knowledge	Level 1	This item requires the student to multiply whole numbers with two digits or less to solve real-world problems.
Comprehension	Level 2	
Application	Level 3	
Analysis	Level 4	
Synthesis		
Evaluation		
	Answer Key: C	

14. There are 12 pencils in one package. Mr. Brown bought 6 packages for his classroom. How many pencils did Mr. Brown buy altogether?

- A. 60 pencils
- B. 62 pencils
- C. 72 pencils
- D. 82 pencils

Multiple Choice Item 15

Standard: MA-04-1.5.1: Properties of Numbers and Operations — Students will identify and determine odd numbers, even numbers, multiples of a number and factors of a number, and will apply these numbers to solve real-world problems.

Bloom's Taxonomy	Depth of Knowledge	Portion of Standard Being Addressed This item requires the student to identify multiples of a number.
Knowledge	Level 1	
Comprehension	Level 2	
Application	Level 3	
Analysis	Level 4	
Synthesis	Answer Key: B	
Evaluation		

15. Use the chart below to answer this question.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40

How many numbers in this chart are multiples of 4?

- A. 5
- B. 10
- C. 20
- D. 40

Multiple Choice Item 16

Standard: MA-04-1.5.2: Properties of Numbers and Operations — Students will use the commutative properties of addition and multiplication, the associative properties of addition and multiplication, the identity properties of addition and multiplication and the zero property of multiplication in written and mental computation.

Bloom's Taxonomy	Depth of Knowledge	Portion of Standard Being Addressed
Knowledge	Level 1	This item requires the student to identify properties of addition and multiplication and the zero property of multiplication in mental computation.
Comprehension	Level 2	
Application	Level 3	
Analysis	Level 4	
Synthesis		
Evaluation		
Answer Key: D		

16. Which number sentence is true no matter what number is put in the box?

- A. $\square + 1 = 1$
- B. $\square \times 1 = 1$
- C. $0 + \square = 0$
- D. $0 \times \square = 0$

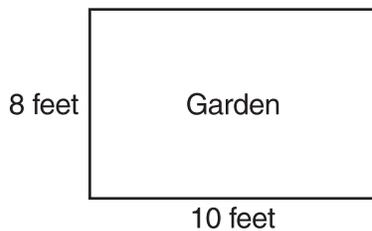
Multiple Choice Item 17

Standard: MA-04-2.1.1: Measuring Physical Attributes: — Students will apply standard units to measure length (to the nearest quarter-inch or the nearest centimeter) and to determine:

- weight (ounce, pound; gram, kilogram);
- perimeter;
- area (figures that can be divided into rectangular shapes);
- time (nearest five minutes) and
- temperature (Fahrenheit and Celsius).

Bloom's Taxonomy	Depth of Knowledge	Portion of Standard Being Addressed This item requires the student to determine the perimeter of a rectangular garden given the length and the width.
Knowledge	Level 1	
Comprehension	Level 2	
Application	Level 3	
Analysis	Level 4	
Synthesis		
Evaluation	Answer Key: C	

17. Use the diagram below to answer the question.



How many feet of fencing would it take to go around the garden?

- A. 18
- B. 28
- C. 36
- D. 80

Multiple Choice Item 18

Standard: MA-04-2.1.2: Measuring Physical Attributes — Students will choose and use appropriate tools (e.g., thermometer, scales, balances, clock, meter stick, yardstick, ruler) for specific measurement tasks.

Bloom's Taxonomy	Depth of Knowledge	Portion of Standard Being Addressed
Knowledge	Level 1	This item requires the student to identify the appropriate tool to measure time.
Comprehension	Level 2	
Application	Level 3	
Analysis	Level 4	
Synthesis		
Evaluation	Answer Key: A	

18. Raul wants to measure the time it takes for a sink to fill with water. Which tool should Raul use?

- A. stopwatch
- B. ruler
- C. scale
- D. measuring cup

Multiple Choice Item 19

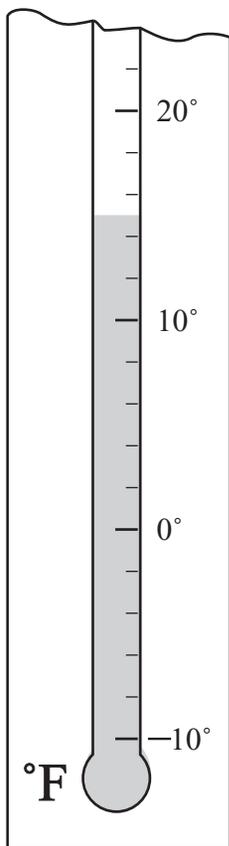
Standard: MA-04-2.1.2: Measuring Physical Attributes — Students will choose and use appropriate tools (e.g., thermometer, scales, balances, clock, meter stick, yardstick, ruler) for specific measurement tasks.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: B

Portion of Standard Being Addressed
This item requires the student to read a thermometer.

19. What temperature is shown on this thermometer?



- A. 16°F
- B. 15°F
- C. 14°F
- D. 13°F

Multiple Choice Item 20

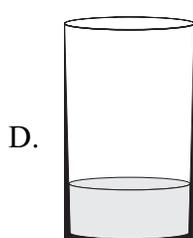
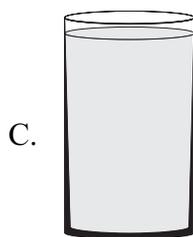
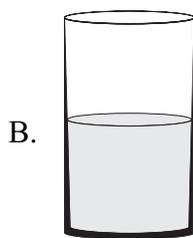
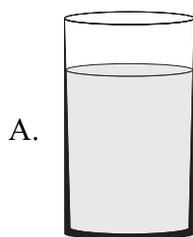
Standard: MA-04-2.1.4: Measuring Physical Attributes — Students will use measurements to describe and compare attributes of objects to include length (in, ft, yd, mile; cm, m, km), width, height, money (cost), temperature and weight (oz, lb, ton; g, kg); sort objects and compare attributes of objects.

Bloom's Taxonomy
Knowledge
Comprehension
Application
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Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: D

Portion of Standard Being Addressed
This item requires students to compare attributes of objects.

20. Each of the glasses below will hold 20 ounces. Which of the glasses is holding about 5 ounces?



Multiple Choice Item 21

Standard: MA-04-2.1.6: Measuring Physical Attributes — Students will estimate weight, length, perimeter, area, angle measures and time using appropriate units of measurement.

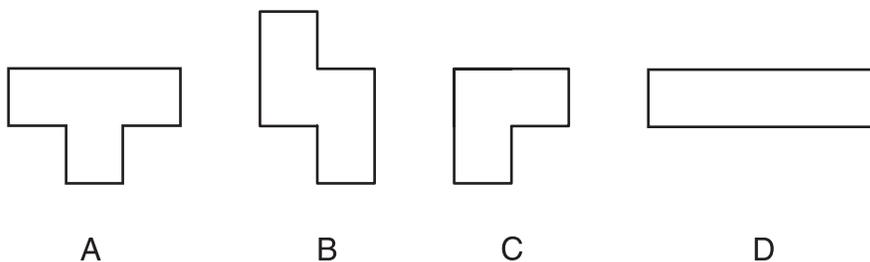
Bloom's Taxonomy
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Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4

Answer Key: C

Portion of Standard Being Addressed
This item requires the student to estimate area using appropriate units of measurement.

21. Use the figures below to answer the question.



Which figure has the **least** area?

- A. A
- B. B
- C. C
- D. D

Multiple Choice Item 22

Standard: MA-04-2.2.1: Systems of Measurement — Students will describe, define, give examples of and use to solve real-world and mathematical problems nonstandard and standard (U.S. Customary, metric) units of measurement (e.g., weight - oz., lbs., tons, g, kg; length – in., ft., yd., mile, cm, m, km; area in square units) and money.

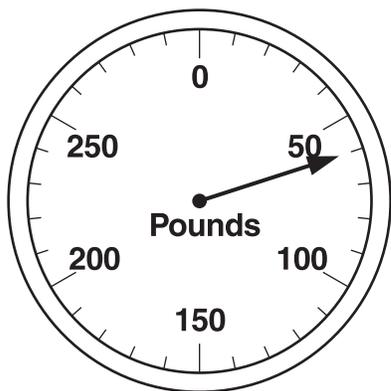
Bloom's Taxonomy
Knowledge
Comprehension
Application
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Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4

Answer Key: D

Portion of Standard Being Addressed
This item requires students to determine the weight shown on a scale.

22. Use the scale shown below to answer the question.



What is the weight shown on the scale?

- A. 6 pounds
- B. 7 pounds
- C. 51 pounds
- D. 60 pounds

Multiple Choice Item 23

Standard: MA-04-2.2.1: Systems of Measurement — Students will describe, define, give examples of and use to solve real-world and mathematical problems nonstandard and standard (U.S. Customary, metric) units of measurement (e.g., weight - oz., lbs., tons, g, kg; length – in., ft., yd., mile, cm, m, km; area in square units) and money.

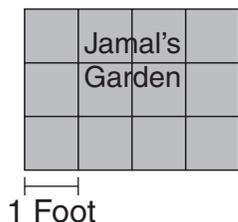
Bloom's Taxonomy
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Level 2
Level 3
Level 4

Answer Key: C

Portion of Standard Being Addressed
This item requires the student to use standard units of measurement involving length.

23. This drawing shows Jamal's garden.



Perimeter means the distance around a shape.

What is the perimeter of Jamal's garden?

- A. 10 feet
- B. 12 feet
- C. 14 feet
- D. 16 feet

Multiple Choice Item 24

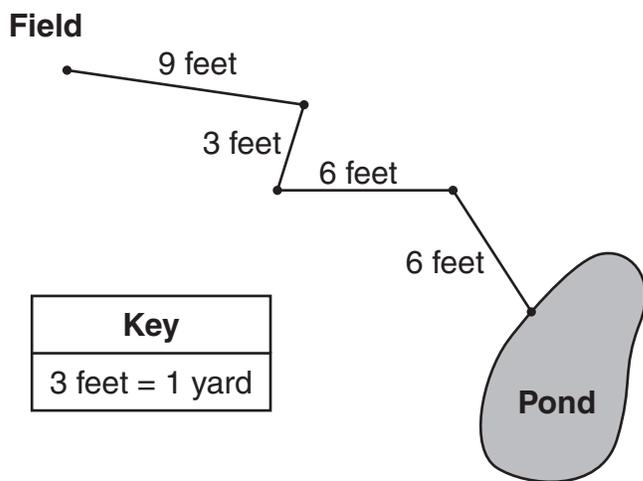
Standard: MA-04-2.2.3: Systems of Measurement — Students will convert units within the same measurement system, including money, time (seconds, minutes, hours, days, weeks, months, years), weight (ounces, pounds) and length (inches, feet, yards).

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Depth of Knowledge
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Level 2
Level 3
Level 4
Answer Key: C

Portion of Standard Being Addressed
This item requires the student to convert units within the same measurement system.

24. The map below shows the number of feet a turtle crawled from a field to a pond.



How many **yards** did the turtle crawl?

- A. 24 yards
- B. 21 yards
- C. 8 yards
- D. 7 yards

Multiple Choice Item 25

Standard: MA-04-3.1.1: Shapes and Relationships — Students will describe and provide examples of basic geometric elements and terms [points, segments, lines (perpendicular, parallel, intersecting), rays, angles (acute, right, obtuse), sides, edges, faces, bases, vertices] and will apply these elements to solve real-world and mathematical problems.

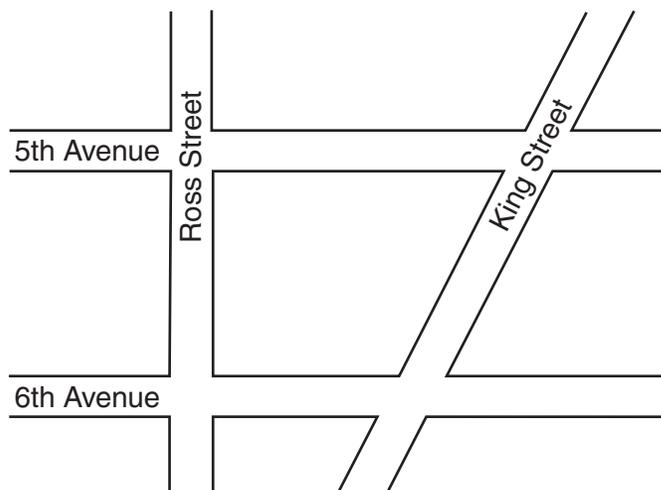
Bloom's Taxonomy
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Depth of Knowledge
Level 1
Level 2
Level 3
Level 4

Answer Key: B

Portion of Standard Being Addressed
This item requires the student to provide examples of basic geometric elements.

25. Use the map below to answer the question.



Which two streets are **perpendicular**?

- A. 5th Avenue and 6th Avenue
- B. 6th Avenue and Ross Street
- C. Ross Street and King Street
- D. King Street and 5th Avenue

Multiple Choice Item 26

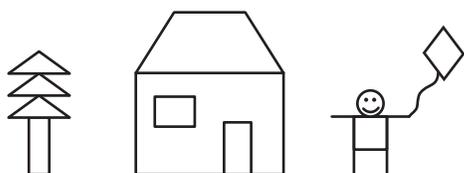
Standard: MA-04-3.1.2: Shapes and Relationships — Students will describe and provide examples of basic two-dimensional shapes [circles, triangles (right, equilateral), squares, rectangles, trapezoids, rhombuses, pentagons, hexagons, octagons] and will apply these shapes to solve real-world and mathematical problems.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: B

Portion of Standard Being Addressed
This item requires the student to provide examples of basic two-dimensional shapes.

26. Look at this picture.



How many quadrilaterals are in the picture?

- A. 5
- B. 7
- C. 9
- D. 11

Multiple Choice Item 27

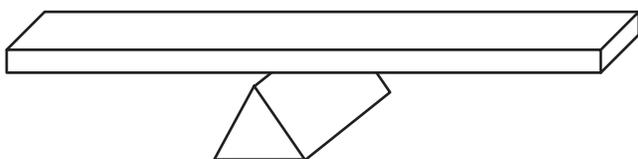
Standard: MA-04-3.1.3: Shapes and Relationships — Students will describe and provide examples of basic three-dimensional objects (spheres, cones, cylinders, pyramids, cubes, triangular and rectangular prisms) and will apply the attributes to solve real-world and mathematical problems.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: B

Portion of Standard Being Addressed
This item requires the student to identify basic three-dimensional objects.

27. Steve made a toy with two solid shapes as shown below.



What two solid shapes did he use?

- A. rectangular pyramid and cone
- B. rectangular prism and triangular prism
- C. square prism and square pyramid
- D. square pyramid and cylinder

Multiple Choice Item 28

Standard: MA-04-3.1.5: Shapes and Relationships — Students will identify and describe congruent and similar figures in real-world and mathematical problems.

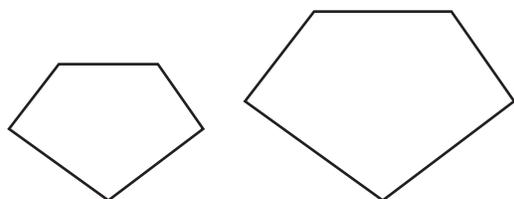
Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4

Answer Key: A

Portion of Standard Being Addressed
This item requires the student to describe similar figures in mathematical problems.

28. Use the figures below to answer the question.



- Min compared the two figures shown above. Which is true about these figures?
- A. They are the same shape but not the same size.
 - B. They are the same size but not the same shape.
 - C. They are the same size and shape.
 - D. They each have 6 sides.

Multiple Choice Item 29

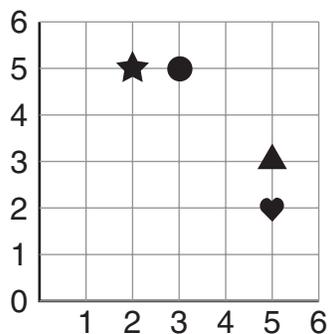
Standard: MA-04-3.3.1: Coordinate Geometry — Students will identify and graph ordered pairs on a positive coordinate system scaled by ones or locate points on a grid.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: B

Portion of Standard Being Addressed
This item requires the student to locate points on a grid representing a positive coordinate system.

29. Look at this grid.



Which shape is located at (3,5)?

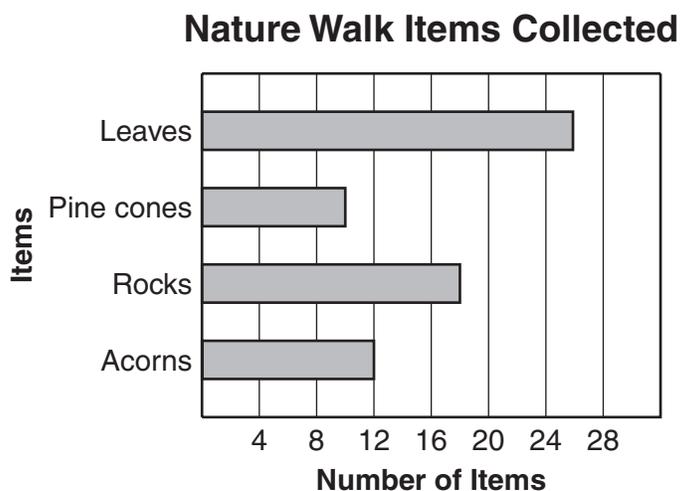
- A. ★
- B. ●
- C. ▲
- D. ♥

Multiple Choice Item 30

Standard: MA-04-4.1.1: Data Representations — Students will analyze and make inferences from data displays (drawings, tables/charts, tally tables, pictographs, bar graphs, circle graphs, line plots, Venn diagrams).

Bloom's Taxonomy	Depth of Knowledge	Portion of Standard Being Addressed This item requires the student to read data displays.
Knowledge	Level 1	
Comprehension	Level 2	
Application	Level 3	
Analysis	Level 4	
Synthesis	Answer Key: C	
Evaluation		

30. Students in Mr. Taylor's class collected leaves, acorns, rocks, and pine cones while on a nature walk. The graph below shows the number of items that the students collected.



How many leaves and pine cones did the students collect altogether?

- A. 32
- B. 34
- C. 36
- D. 40

Multiple Choice Item 31

Standard: MA-04-4.1.3: Data Representations — Students will construct data displays (pictographs, bar graphs, line plots, Venn diagrams, tables).

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: A

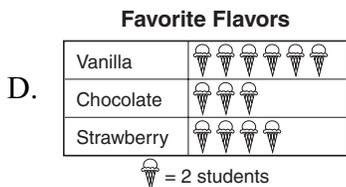
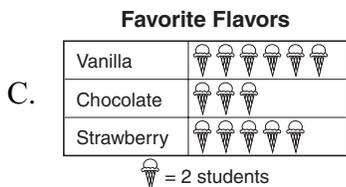
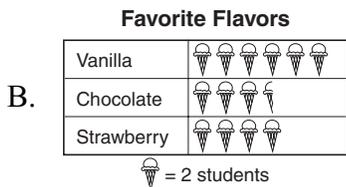
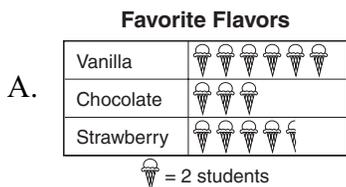
Portion of Standard Being Addressed
This item requires the student to construct data displays.

31. Juan asked all the students in his class to name their favorite flavor of ice cream.

**Favorite Flavors
of Ice Cream**

Vanilla	
Chocolate	
Strawberry	

Which graph shows this data?



Multiple Choice Item 32

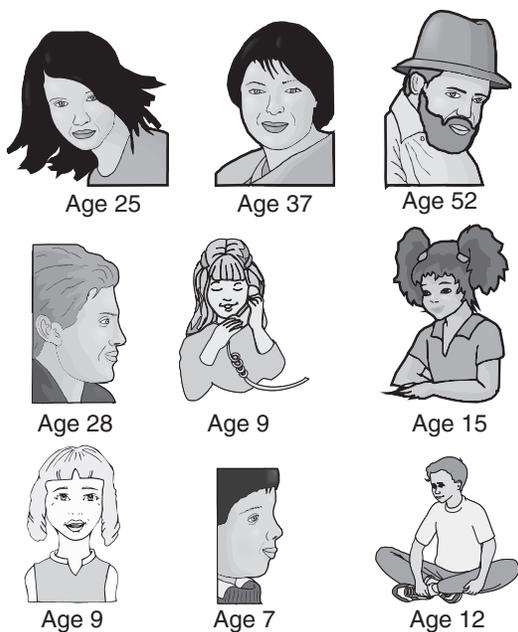
Standard: MA-04-4.2.1: Characteristics of Data Sets — Students will determine the median, mode (for a data set with no more than one mode) and range of a set of data.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: C

Portion of Standard Being Addressed
This item requires the student to determine the median of a data set.

32. The picture below shows the ages of a group of people who went to see a movie.



List the ages in order from youngest to oldest. What age is in the middle of the list?

- A. 9
- B. 12
- C. 15
- D. 25

Multiple Choice Item 33

Standard: MA-04-4.4.1: Probability — Students will determine all possible outcomes of an activity/event with up to six possible outcomes.

Bloom's Taxonomy	Depth of Knowledge	Portion of Standard Being Addressed
Knowledge	Level 1	This item requires the student to determine all possible outcomes of an event.
Comprehension	Level 2	
Application	Level 3	
Analysis	Level 4	
Synthesis		
Evaluation		
	Answer Key: D	

33. Use the table below to answer the question.

Bread	Filling
White	Ham
Wheat	Chicken
	Cheese

At Harry's Sandwich Shoppe, you can choose between two different kinds of bread and three different fillings. If you can only use one kind of bread and one kind of filling to make a sandwich, how many different kinds of sandwiches can you make?

- A. 3
- B. 4
- C. 5
- D. 6

Multiple Choice Item 34

Standard: MA-04-4.4.1: Probability — Students will determine all possible outcomes of an activity/event with up to six possible outcomes.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4

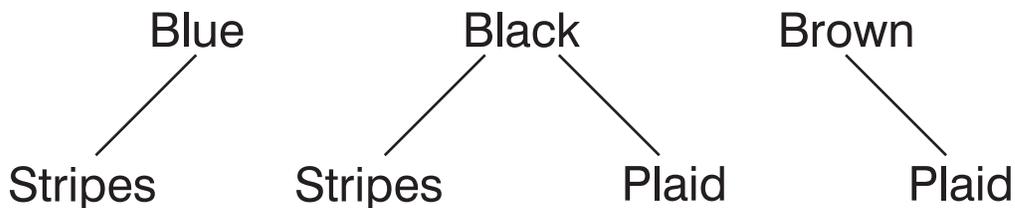
Answer Key: C

Portion of Standard Being Addressed
This item requires the student to determine all possible outcomes of an event with up to six possible outcomes.

34. Matt has these shirts and pants.

Pants	Shirts
Blue	Stripes
Black	Plaid
Brown	

He drew the tree diagram below to show all the possible combinations of one shirt and one pair of pants he could wear.



How many combinations did he miss in his diagram?

- A. 0
- B. 1
- C. 2
- D. 3

Multiple Choice Item 35

Standard: MA-04-5.1.1: Patterns, Relations and Functions — Students will extend patterns (e.g., 108, 208, 308, 408, ... $\circ\circ\triangle\circ\circ\triangle$...) from real-world and mathematical problems; compare simple patterns (numbers, pictures, words; e.g., $\triangle\triangle\triangle$; $\triangle\circ\circ\triangle\circ\circ$); and describe rules for simple number patterns (e.g., 1, 3, 5, 7, ...; 5, 10, 15, 20, ...; 30, 27, 24, 21, ...).

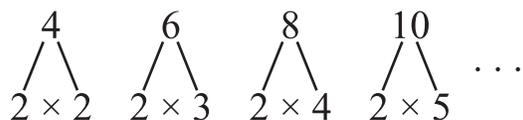
Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4

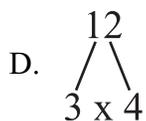
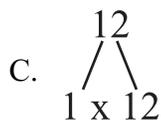
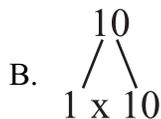
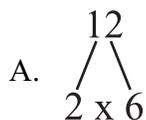
Answer Key: A

Portion of Standard Being Addressed
This item requires the student to extend patterns from mathematical problems.

35. Use the pattern below to answer the question.



Which would be next in this pattern?



Multiple Choice Item 36

Standard: MA-04-5.1.1: Patterns, Relations and Functions — Students will extend patterns (e.g., 108, 208, 308, 408, ... $\circ\circ\triangle\circ\circ\triangle \dots$) from real-world and mathematical problems; compare simple patterns (numbers, pictures, words; e.g., $\triangle\triangle\triangle;\triangle\circ\circ\triangle\circ\circ$); and describe rules for simple number patterns (e.g., 1, 3, 5, 7, ...; 5, 10, 15, 20, ...; 30, 27, 24, 21, ...).

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4

Answer Key: C

Portion of Standard Being Addressed
This item requires the student to extend patterns from mathematical problems.

36. Use the pattern below to answer the question.



Which figure comes next in this pattern?

- A.
- B.
- C.
- D.

Multiple Choice Item 37

Standard: MA-04-5.1.1: Patterns, Relations and Functions — Students will extend patterns (e.g., 108, 208, 308, 408, ... $\circ\circ\triangle\circ\circ\triangle$...) from real-world and mathematical problems; compare simple patterns (numbers, pictures, words; e.g., $\triangle\triangle\triangle$; $\triangle\circ\circ\triangle\circ\circ$); and describe rules for simple number patterns (e.g., 1, 3, 5, 7, ...; 5, 10, 15, 20, ...; 30, 27, 24, 21, ...).

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: C

Portion of Standard Being Addressed
This item requires the student to determine the next number in a numerical pattern of decimal numbers.

37. Use the number pattern below to answer the question.

1, 1.5, 2, 2.5, 3, 3.5, 4, ____

What number comes **next** in the pattern?

- A. 3.5
- B. 4
- C. 4.5
- D. 5

Multiple Choice Item 38

Standard: MA-04-5.1.1: Patterns, Relations and Functions — Students will extend patterns (e.g., 108, 208, 308, 408, ... $\circ\circ\triangle\circ\circ\triangle$...) from real-world and mathematical problems; compare simple patterns (numbers, pictures, words; e.g., $\triangle\triangle\triangle$; $\triangle\circ\circ\triangle\circ\circ$); and describe rules for simple number patterns (e.g., 1, 3, 5, 7, ...; 5, 10, 15, 20, ...; 30, 27, 24, 21, ...).

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

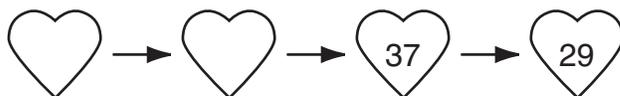
Depth of Knowledge
Level 1
Level 2
Level 3
Level 4

Answer Key: A

Portion of Standard Being Addressed

This item requires the student to provide a missing term in a number pattern.

38. Sasha used the “subtract 8” rule to make the pattern below.



What is the first number in her pattern?

- A. 53
- B. 45
- C. 21
- D. 13

Multiple Choice Item 39

Standard: MA-04-5.1.2: Patterns, Relations and Functions — Students will describe functions (input-output) through pictures, tables, and words; and will analyze functions from a table based on real-world and mathematical problems.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: D

Portion of Standard Being Addressed
This item requires the student to identify a word rule for a number pattern.

39. Use the pattern below to answer the question.

1, 6, 2, 12, 4, 24, 8, 48, 16, . . .

What is the rule for the pattern?

- A. add 5, subtract 4
- B. multiply by 2, subtract 4
- C. add 6, divide by 3
- D. multiply by 6, divide by 3

Multiple Choice Item 40

Standard: MA-04-5.1.2: Patterns, Relations and Functions — Students will describe functions (input-output) through pictures, tables, and words; and will analyze functions from a table based on real-world and mathematical problems.

Bloom's Taxonomy
Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Depth of Knowledge
Level 1
Level 2
Level 3
Level 4
Answer Key: C

Portion of Standard Being Addressed
This item requires the student to analyze functions from a table based on real-world problems.

40. Each year in the life of a horse is about the same as 3 years in the life of a human, as shown in the table below.

Horse age	0	1	2	3	4	5	6	7
Human age	0	3	6	9	12	—	—	?

If a horse is 7 years old, what is its age in human years?

- A. 13
- B. 15
- C. 21
- D. 28