

# GPS Grade 5 Sample Questions

The Georgia Department of Education has developed sample questions, in a multiple choice format, to illustrate the types of questions that might be seen on a standardized test such as the CRCT.

These are not intended to be a comprehensive means of assessment; instead teachers should use a variety of methods and strategies for assessing students. Tasks within the GPS frameworks along with additional resources including textbooks also offer a diverse assortment of assessments.

## **Unit 1: Groovy Graphing**

### **KEY STANDARDS:**

**M5A1 Students will represent and interpret the relationships between quantities algebraically.**

- b. Investigate simple algebraic expressions by substituting numbers for the unknown.
- c. Determine that a formula will be reliable regardless of the type of number (whole numbers or decimal fractions) substituted for the variable.

**M5N5 Students will understand the meaning of percentage.**

- a. Apply percentage to circle graphs.

**M5D1 Students will analyze graphs.**

- a. Analyze data presented in a graph.
- b. Compare and contrast multiple graphic representations (circle graphs, line graphs, bar graphs, etc.) for a single set of data and discuss the advantages & disadvantages of each.

**M5D2 Students will collect, organize, and display data using the most appropriate graph.**

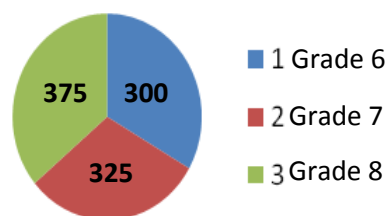
### **1. (M5A1b)**

Because he is older, Riley's parents decided to use the expression  $3x + 1$  to determine his allowance when his brother's allowance is  $x$ . How much money do his parents spend each week for both boys if Riley's younger brother makes \$2 each week?

- A. \$3
- B. \$5
- C. \$7
- D. \$9\*

### **2. (M5N5a)**

The following graph displays the number of sixth, seventh and eighth grade students at Madison Middle School. What percent of the students are in the seventh and eighth grades?



- A. 30%
- B. 50%
- C. 70%\*
- D. 90%

Continued...

# GPS Grade 5 Sample Questions

## **Unit 1: Groovy Graphing**

### **KEY STANDARDS:**

**M5A1 Students will represent and interpret the relationships between quantities algebraically.**

- b. Investigate simple algebraic expressions by substituting numbers for the unknown.
- c. Determine that a formula will be reliable regardless of the type of number (whole numbers or decimal fractions) substituted for the variable.

**M5N5 Students will understand the meaning of percentage.**

- a. Apply percentage to circle graphs.

**M5D1 Students will analyze graphs.**

- a. Analyze data presented in a graph.
- b. Compare and contrast multiple graphic representations (circle graphs, line graphs, bar graphs, etc.) for a single set of data and discuss the advantages & disadvantages of each.

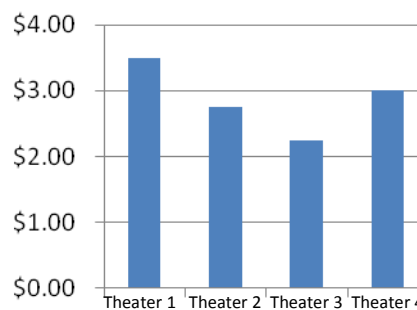
**M5D2 Students will collect, organize, and display data using the most appropriate graph.**

Continued...

### **3. (M5D1a)**

The following graph shows the prices of candy bars at different movie theaters.

**Theater Candy Prices**



What is the difference between the prices of candy bars at the most expensive and least expensive theaters?

- A. \$0.50
- B. \$0.75
- C. \$1.25\*
- D. \$1.75

Continued...

# GPS Grade 5 Sample Questions

## Unit 1: Groovy Graphing

### KEY STANDARDS:

**M5A1 Students will represent and interpret the relationships between quantities algebraically.**

- b. Investigate simple algebraic expressions by substituting numbers for the unknown.
- c. Determine that a formula will be reliable regardless of the type of number (whole numbers or decimal fractions) substituted for the variable.

**M5N5 Students will understand the meaning of percentage.**

- a. Apply percentage to circle graphs.

**M5D1 Students will analyze graphs.**

- a. Analyze data presented in a graph.
- b. Compare and contrast multiple graphic representations (circle graphs, line graphs, bar graphs, etc.) for a single set of data and discuss the advantages & disadvantages of each.

**M5D2 Students will collect, organize, and display data using the most appropriate graph.**

Continued...

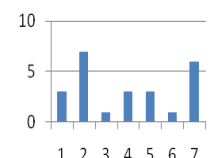
### 4. (M5D2)

The table below shows the average number of hours a typical eighth grader spends on daily activities.

Activity	Number of Hours
Eating	3
In School	7
Studying	1
Watching TV	3
On the Computer	3
Playing Sports	1
Sleeping	6

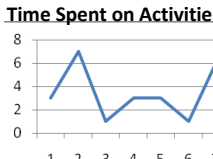
Which of the following graphs is the most appropriate method to display the above data?

**A.** **Time Spent on Activities**




1 – Eating  
2 – In School  
3 – Studying  
4 – Watching TV  
5 – On the Computer  
6 – Playing Sports  
7 – Sleeping

**B.** **Time Spent on Activities**



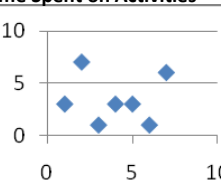
1 – Eating  
2 – In School  
3 – Studying  
4 – Watching TV  
5 – On the Computer  
6 – Playing Sports  
7 – Sleeping

**C.\*** **Time Spent on Activities**



■ 1 Eating  
■ 2 In School  
■ 3 Studying  
■ 4 Watching TV  
■ 5 On the Computer  
■ 6 Playing Sports  
■ 7 Sleeping

**D.** **Time Spent on Activities**



1 – Eating  
2 – In School  
3 – Studying  
4 – Watching TV  
5 – On the Computer  
6 – Playing Sports  
7 – Sleeping

# GPS Grade 5 Sample Questions

## **Unit 2: Devine Decimals**

### **KEY STANDARDS:**

**M5N2. Students will further develop their understanding of decimals as part of the base-ten number system.**

- Understand place value.
- Analyze the effect on the product when a number is multiplied by 10, 100, 1000, 0.1, and 0.01.

**M5N3. Students will further develop their understanding of the meaning of multiplication and division with decimal fractions and use them.**

- Model multiplication and division of decimal fractions by another decimal fraction.
- Explain the process of multiplication and division, including situations in which the multiplier and divisor are both whole numbers and decimal fractions.
- Multiply and divide with decimal fractions including decimal fractions less than one and greater than one.
- Understand that the relationships and rules for multiplication and division of whole numbers also apply to decimal fractions.

**M5A1. Students will represent and interpret the relationships between quantities algebraically.**

- Use variables, such as  $n$  or  $x$ , for unknown quantities in algebraic expressions.
- Investigate simple algebraic expressions by substituting numbers for the unknown.
- Determine that a formula will be reliable regardless of the type of number (whole numbers or decimal fractions) substituted for the variable.

### **1. (M5N2b)**

Your neighbor has asked you to help him build birdhouses to sell at the community craft fair. He has promised to pay you 0.01 times the amount of money that he makes selling them at the craft fair. If he sold 132 birdhouses at \$12.50 each, how much money should you receive?

- \$1.65
- \$16.50\***
- \$165.00
- \$1650.00

### **2. (M5N3c)**

Hyden paid \$26.52 for 8.5 gallons of gas for his truck. What was the price for each gallon of gas?

- \$2.65
- \$3.12\***
- \$3.32
- \$5.30

### **3. (M5A1a)**

The Achievers Club is having a carnival at the school. Each person will pay an entrance fee of \$3.00 and \$ .50 for each ride. If the expression  $3 + .50x$  represents the amount spent by each student, what does  $x$  represent?

- Number of students entering the carnival
- Money earned by the Achiever Club
- Total amount of money spent by each student
- The number of rides each student rode\***

Continued...

# GPS Grade 5 Sample Questions

## **Unit 2: Devine Decimals**

### **KEY STANDARDS:**

**M5N2. Students will further develop their understanding of decimals as part of the base-ten number system.**

- Understand place value.
- Analyze the effect on the product when a number is multiplied by 10, 100, 1000, 0.1, and 0.01.

**M5N3. Students will further develop their understanding of the meaning of multiplication and division with decimal fractions and use them.**

- Model multiplication and division of decimal fractions by another decimal fraction.
- Explain the process of multiplication and division, including situations in which the multiplier and divisor are both whole numbers and decimal fractions.
- Multiply and divide with decimal fractions including decimal fractions less than one and greater than one.
- Understand that the relationships and rules for multiplication and division of whole numbers also apply to decimal fractions.

**M5A1. Students will represent and interpret the relationships between quantities algebraically.**

- Use variables, such as  $n$  or  $x$ , for unknown quantities in algebraic expressions.
- Investigate simple algebraic expressions by substituting numbers for the unknown.
- Determine that a formula will be reliable regardless of the type of number (whole numbers or decimal fractions) substituted for the variable.

Continued...

### **4. (M5A1b)**

Abigail's cell phone company determines the price she is charged each month by using the expression  $59.99 + 0.45n$  when  $n$  represents the number of day-time minutes over her plan allotment.

If her plan allotment is 450 day-time minutes per month, use the expression to determine what the cell phone company charged her if she talked 734 day-time minutes last month.

- \$127.80
- \$187.79\***
- \$262.49
- \$390.29

### **5. (M5A1b)**

Logan just moved to Georgia from Australia. He said that he is about 1.68 m tall.

The formula  $y = 3.28x$  is used to convert from the metric system to the English system when  $x$  represents the number of meters and  $y$  represents the number of feet.

Which of the following best represents Logan's height?

- 4 feet 10 inches
- 5 feet 6 inches\***
- 6 feet 2 inches
- 6 feet 5 inches

# GPS Grade 5 Sample Questions

## **Unit 3: Funky Fractions**

### **KEY STANDARDS:**

#### **M5N1. Students will further develop their understanding of whole numbers.**

- Classify the set of counting numbers into subsets with distinguishing characteristics (odd/even, prime/composite).
- Find multiples and factors.
- Analyze and use divisibility rules.

#### **M5N4. Students will continue to develop their understanding of the meaning of common fractions and will compute with them.**

- Understand division of whole numbers can be represented as a fraction ( $a/b = a \div b$ ).
- Understand the value of a fraction is not changed when both its numerator and denominator are multiplied or divided by the same number because it is the same as multiplying or dividing by one.
- Find equivalent fractions and simplify fractions.
- Model the multiplication and division of common fractions.
- Explore finding common denominators using concrete, pictorial, and computational models.
- Use  $<$ ,  $>$ , or  $=$  to compare fractions and justify the comparison.
- Add and subtract common fractions and mixed numbers with unlike denominators.
- Use fractions (proper and improper) and decimals interchangeably.
- Estimate products and quotients.

#### **M5A1. Students will represent and interpret the relationships between quantities algebraically.**

- Use variables, such as  $n$  or  $x$ , for unknown quantities in algebraic expressions.
- Investigate simple algebraic expressions by substituting numbers for the unknown.
- Determine that a formula will be reliable regardless of the type of number (whole numbers or decimal fractions) substituted for the variable.

#### **1. (M5N1c)**

Brianna received a gift of 4,632 stickers from her grandmother. She wanted to divide them equally among herself and her five best friends. How could she be sure there would not be any leftover stickers without actually dividing?

- The digit 6 is in the number so there will be six equal groups with no leftovers.
- The last two digits are 3 and 2. When they are multiplied you get 6, so there will be 6 equal groups with no leftovers.
- The number is even and  $4 + 6 + 3 + 2 = 15$ . Fifteen is divisible by 3. Therefore, there will be 6 equal groups with no leftovers.\*
- The number is not divisible by 6 because the 4 in the thousands-place is not a factor of 6.

#### **2. (M5N4d)**

Ethan was making cookies. After measuring the flour needed for the recipe, he dropped the glass measuring cup and it shattered all over the floor. When he finished cleaning up his mess, he looked in the cookbook and found that 1 tablespoon =  $\frac{1}{16}$  cup. How many tablespoons will it take

to equal the  $2\frac{1}{2}$  cups of sugar needed to complete the recipe?

- $2\frac{1}{2}$
- 16
- 32
- 40\*

Continued...

# GPS Grade 5 Sample Questions

## **Unit 3: Funky Fractions**

### **KEY STANDARDS:**

#### **M5N1. Students will further develop their understanding of whole numbers.**

- Classify the set of counting numbers into subsets with distinguishing characteristics (odd/even, prime/composite).
- Find multiples and factors.
- Analyze and use divisibility rules.

#### **M5N4. Students will continue to develop their understanding of the meaning of common fractions and will compute with them.**

- Understand division of whole numbers can be represented as a fraction ( $a/b = a \div b$ ).
- Understand the value of a fraction is not changed when both its numerator and denominator are multiplied or divided by the same number because it is the same as multiplying or dividing by one.
- Find equivalent fractions and simplify fractions.
- Model the multiplication and division of common fractions.
- Explore finding common denominators using concrete, pictorial, and computational models.
- Use  $<$ ,  $>$ , or  $=$  to compare fractions and justify the comparison.
- Add and subtract common fractions and mixed numbers with unlike denominators.
- Use fractions (proper and improper) and decimals interchangeably.
- Estimate products and quotients.

#### **M5A1. Students will represent and interpret the relationships between quantities algebraically.**

- Use variables, such as  $n$  or  $x$ , for unknown quantities in algebraic expressions.
- Investigate simple algebraic expressions by substituting numbers for the unknown.
- Determine that a formula will be reliable regardless of the type of number (whole numbers or decimal fractions) substituted for the variable.

Continued...

#### **3. (M5N4h)**

Ella earns \$8.25 per hour for the first 8 hours that she works each day and  $1\frac{1}{2}$  times this amount for each hour that she works over 8 hours in a day. About how much did Ella earn if she worked  $10\frac{3}{4}$  hours last Wednesday?

- \$28.50
- \$88.69
- \$92.81
- \$100.03\***

#### **4. (M5N4g)**

Kaden has received an allowance each week. She spends  $\frac{1}{2}$  of her allowance for her school lunch,  $\frac{1}{4}$  of her allowance on entertainment, and saves the rest. What part of her allowance does she save each week?

- She saves  $\frac{1}{6}$  of her allowance each week.
- She saves  $\frac{1}{4}$  of her allowance each week.\***
- She saves  $\frac{1}{3}$  of her allowance each week.
- She saves  $\frac{1}{2}$  of her allowance each week.

Continued...

# GPS Grade 5 Sample Questions

## **Unit 3: Funky Fractions**

### **KEY STANDARDS:**

#### **M5N1. Students will further develop their understanding of whole numbers.**

- Classify the set of counting numbers into subsets with distinguishing characteristics (odd/even, prime/composite).
- Find multiples and factors.
- Analyze and use divisibility rules.

#### **M5N4. Students will continue to develop their understanding of the meaning of common fractions and will compute with them.**

- Understand division of whole numbers can be represented as a fraction ( $a/b = a \div b$ ).
- Understand the value of a fraction is not changed when both its numerator and denominator are multiplied or divided by the same number because it is the same as multiplying or dividing by one.
- Find equivalent fractions and simplify fractions.
- Model the multiplication and division of common fractions.
- Explore finding common denominators using concrete, pictorial, and computational models.
- Use  $<$ ,  $>$ , or  $=$  to compare fractions and justify the comparison.
- Add and subtract common fractions and mixed numbers with unlike denominators.
- Use fractions (proper and improper) and decimals interchangeably.
- Estimate products and quotients.

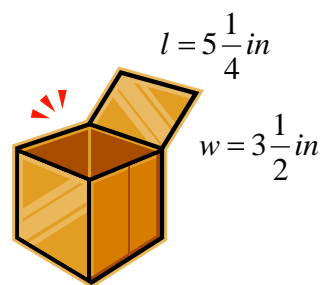
#### **M5A1. Students will represent and interpret the relationships between quantities algebraically.**

- Use variables, such as  $n$  or  $x$ , for unknown quantities in algebraic expressions.
- Investigate simple algebraic expressions by substituting numbers for the unknown.
- Determine that a formula will be reliable regardless of the type of number (whole numbers or decimal fractions) substituted for the variable.

Continued...

#### **5. (M5A1b)**

You have 2 feet of ribbon to use as a border around all four sides of the rectangular shaped lid of a little jewelry box that you are making as a gift for your teacher. How much ribbon will be left over?



- $15\frac{1}{4} \text{ in}$
- $15\frac{5}{6} \text{ in}$
- $6\frac{1}{2} \text{ in}^*$
- $7\frac{2}{3} \text{ in}$

# GPS Grade 5 Sample Questions

## **Unit 4: Positively Perfect Plane Figures**

### **KEY STANDARDS:**

#### **M5M1. Students will extend their understanding of area of fundamental geometric plane figures.**

- Estimate the area of fundamental geometric plane figures.
- Derive the formula for the area of a parallelogram (e.g., cut the parallelogram apart and rearrange it into a rectangle of the same area).
- Derive the formula for the area of a triangle (e.g. demonstrate and explain its relationship to the area of a rectangle with the same base and height).
- Find the areas of triangles and parallelograms using formulae.
- Estimate the area of a circle through partitioning and tiling and then find the area of a circle with formula (let  $\pi = 3.14$ ). (Discuss square units as they apply to circles.)
- Find the area of a polygon (regular and irregular) by dividing it into squares, rectangles, and/or triangles and finding the sum of the areas of those shapes.

#### **M5G1. Students will understand congruence of geometric figures and the correspondence of their vertices, sides, and angles.**

#### **M5G2. Students will understand the relationship of the circumference of a circle, its diameter, and pi ( $\pi \approx 3.14$ ).**

#### **M5A1. Students will represent and interpret the relationships between quantities algebraically.**

- Use variables, such as  $n$  or  $x$ , for unknown quantities in algebraic expressions.
- Investigate simple algebraic expressions by substituting numbers for the unknown.
- Determine that a formula will be reliable regardless of the type of number (whole numbers or decimal fractions) substituted for the variable.

#### **1. (M5M1d)**

The community center has decided to move the parking area to the back of the building and replace the front with a grass lawn. The lawn is rectangular shaped with a length of 10 yards and a width of 40 yards. They have already spent \$1584 on surrounding the lawn with a white picket fence. A bag of grass seed covers 50 square yards at a cost of \$4.99 per bag.

What is the total cost to renovate the front lawn with the new grass and fence?

- \$71.92
- \$1588.99
- \$1623.92\***
- \$12275.99

#### **2. (M5G1)**

$\triangle ABC$  is congruent to  $\triangle DEF$ . Which statement is always true?

- $\overline{AB} = \overline{EF}$
- $\angle A = \angle E$
- $\overline{AB} = \overline{DE}$ \***
- $\triangle ABC$  and  $\triangle DEF$  must have the same shape, but different sizes

Continued...

# GPS Grade 5 Sample Questions

## Unit 4: *Positively Perfect Plane Figures*

### KEY STANDARDS:

#### M5M1. Students will extend their understanding of area of fundamental geometric plane figures.

- Estimate the area of fundamental geometric plane figures.
- Derive the formula for the area of a parallelogram (e.g., cut the parallelogram apart and rearrange it into a rectangle of the same area).
- Derive the formula for the area of a triangle (e.g. demonstrate and explain its relationship to the area of a rectangle with the same base and height).
- Find the areas of triangles and parallelograms using formulae.
- Estimate the area of a circle through partitioning and tiling and then find the area of a circle with formula (let  $\pi = 3.14$ ). (Discuss square units as they apply to circles.)
- Find the area of a polygon (regular and irregular) by dividing it into squares, rectangles, and/or triangles and finding the sum of the areas of those shapes.

#### M5G1. Students will understand congruence of geometric figures and the correspondence of their vertices, sides, and angles.

#### M5G2. Students will understand the relationship of the circumference of a circle, its diameter, and $\pi$ ( $\pi \approx 3.14$ ).

#### M5A1. Students will represent and interpret the relationships between quantities algebraically.

- Use variables, such as  $n$  or  $x$ , for unknown quantities in algebraic expressions.
- Investigate simple algebraic expressions by substituting numbers for the unknown.
- Determine that a formula will be reliable regardless of the type of number (whole numbers or decimal fractions) substituted for the variable.

Continued...

#### 3. (M5G2)

The original Ferris wheel introduced at the 1893 World's Fair in Chicago had a diameter of 250 feet.

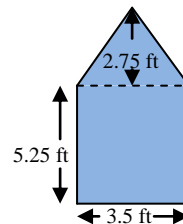


Which is closest to the distance a person who rode this wheel traveled in one complete revolution?

- 393 ft
- 785 ft \***
- 1,570 ft
- 49,063 ft

#### 4. (M5A1c)

Avery is making the background set for the drama club. He will be covering it with blue fabric.



Exactly how many square feet of fabric will be needed to cover the blue area?

- 11.5 ft<sup>2</sup>
- 23.1875 ft<sup>2</sup> \***
- 30.275 ft<sup>2</sup>
- 50.53125 ft<sup>2</sup>

# GPS Grade 5 Sample Questions

## **Unit 5: Super Solid Figures**

### **KEY STANDARDS:**

#### **M5M3. Students will measure capacity with appropriately chosen units and tools.**

- a. Use milliliters, liters, fluid ounces, cups, pints, quarts, and gallons to measure capacity.
- b. Compare one unit to another within a single system of measurement (e.g., 1 quart = 2 pints).

#### **M5M4. Students will understand and compute the volume of a simple geometric solid.**

- a. Understand a cubic unit ( $u^3$ ) is represented by a cube in which each edge has the length of 1 unit.
- b. Identify the units used in computing volume as cubic centimeters ( $cm^3$ ), cubic meters ( $m^3$ ), cubic inches ( $in^3$ ), cubic feet ( $ft^3$ ), and cubic yards ( $yd^3$ ).
- c. Derive the formula for finding the volume of a cube and a rectangular prism using manipulatives.
- d. Compute the volume of a cube and a rectangular prism using formulae.
- e. Estimate the volume of a simple geometric solid.
- f. Understand the similarities and differences between volume and capacity.

#### **1. (M5M3)**

Maria's mom is making punch for the school dance. The recipe calls for 32 cups of ginger ale, and she needs to triple the recipe. How many gallons of ginger ale are needed?

- A. 6 gallons\*
- B. 16 gallons
- C. 24 gallons
- D. 96 gallons

#### **2. (M5M4a)**

The A & A candy company found that 5 chocolate drops would fit in a cubic inch box. They want to package the candy in a cubic box with 4 inches on each side of the box. How many chocolates will they be able to place in the box?

- A. 16 chocolates
- B. 20 chocolates
- C. 64 chocolates
- D. 320 chocolates\*

#### **3. (M5M4d)**

Jim made a box for his coin collection. The width was 6 inches. The length was three times the width and the height was half the width. What would be the volume of the box?

- A. 27 cubic inches
- B. 108 cubic inches
- C. 216 cubic inches
- D. 324 cubic inches\*