

South Carolina SC READY 2018  
Grade 5 Math Practice

Exam & Answer Key Materials  
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South Carolina College- and  
Career-Ready Assessments



**Grade 5 Mathematics**

**SAMPLE ITEMS**

## Introduction

The South Carolina Department of Education provides districts and schools with tools to assist in delivering focused instruction aligned with the South Carolina College- and Career-Ready Standards (SCCCRS). This document contains a set of twenty SC READY test items that have been written to align with the South Carolina College- and Career-Ready Standards. These items were reviewed for content and bias prior to being field tested and approved for release to the public.

## Purpose

This document is intended to be a resource for educators; it is not designed to be a practice test for students. The sample items are examples of college- and career-ready assessment items. These items were chosen to reflect the increased rigor of assessing the South Carolina College- and Career-Ready Standards which includes the Mathematical Process Standards. SC READY assesses content standards in a variety of ways. This document does not include all item types or standards.

## Item Information Format

<b>Standard Alignment</b>	SCCCR
<b>Standard Description</b>	text from SCCCR
<b>Answer Key</b>	correct answer
<b>Depth of Knowledge</b>	cognitive demand
<b>Estimated Difficulty</b>	estimate based on student responses

## Links

South Carolina College- and Career-Ready Standards

<https://ed.sc.gov/instruction/standards-learning/mathematics/standards/>

Norman Webb's Depth-of-Knowledge for the Four Content Areas

<http://www.webbalign.org/Webbs-DOK-Levels-Summary.pdf>

1. A chemical's temperature is  $121.346^{\circ}$  Fahrenheit. Rounded to the nearest tenth in degrees Fahrenheit, which measure represents the temperature of the chemical?
  - A.  $121.0^{\circ}$
  - B.  $121.3^{\circ}$
  - C.  $121.4^{\circ}$
  - D.  $122.0^{\circ}$

SC READY MATH Sample Item

<b>1</b>	<b>Standard Alignment</b>	<b>5.NSBT.4</b>
	<b>Standard Description</b>	Round decimals to any given place value within thousandths.
	<b>Answer Key</b>	<b>B</b>
	<b>Depth of Knowledge</b>	<b>1</b>
	<b>Estimated Difficulty</b>	<b>Medium Difficulty</b>

2. Amanda has a rock that has a mass of 26.745 grams. What is the mass, in grams, of Amanda's rock when rounded to the nearest hundredth?
- A. 26.70
  - B. 26.74
  - C. 26.75
  - D. 27.00

SC READY MATH Sample Item

<b>2</b>	<b>Standard Alignment</b>	<b>5.NSBT.4</b>
	<b>Standard Description</b>	Round decimals to any given place value within thousandths.
	<b>Answer Key</b>	<b>C</b>
	<b>Depth of Knowledge</b>	<b>1</b>
	<b>Estimated Difficulty</b>	<b>Medium Difficulty</b>

3. An equation is shown.

$$3\frac{1}{5} - \frac{9}{20} = \square$$

Which mixed number makes the equation true?

- A.  $1\frac{1}{4}$
- B.  $2\frac{8}{15}$
- C.  $2\frac{3}{4}$
- D.  $3\frac{5}{20}$

SC READY MATH Sample Item

**3**

**Standard Alignment** 5.NSF.1

**Standard Description**

Add and subtract fractions with unlike denominators (including mixed numbers) using a variety of models, including an area model and number line.

**Answer Key**

C

**Depth of Knowledge**

2

**Estimated Difficulty**

High Difficulty

4. What is the value of  $1\frac{4}{5} + 3\frac{1}{3}$ ?

A.  $4\frac{2}{15}$

B.  $4\frac{5}{8}$

C.  $5\frac{2}{15}$

D.  $5\frac{5}{8}$

SC READY MATH Sample Item	4	Standard Alignment	5.NSF.1
		Standard Description	Add and subtract fractions with unlike denominators (including mixed numbers) using a variety of models, including an area model and number line.
		Answer Key	C
		Depth of Knowledge	1
		Estimated Difficulty	High Difficulty

5. Kara had 24 raffle tickets to sell. She sold  $\frac{1}{6}$  of her tickets on Monday and  $\frac{3}{4}$  of her tickets on Tuesday. What fraction of Kara's total raffle tickets did she sell on Monday and Tuesday?
- A.  $\frac{11}{24}$
- B.  $\frac{11}{12}$
- C.  $\frac{2}{5}$
- D.  $\frac{1}{6}$

SC READY MATH Sample Item	Standard Alignment	5.NSF.2
	Standard Description	Solve real-world problems involving addition and subtraction of fractions with unlike denominators.
	5 Answer Key	B
	Depth of Knowledge	2
	Estimated Difficulty	Medium Difficulty



6. Andrea runs a half marathon. She runs for  $1\frac{4}{5}$  hours and she walks for  $\frac{3}{4}$  hour. How many hours does it take Andrea to complete the half marathon?

- A.  $1\frac{7}{9}$
- B.  $1\frac{11}{20}$
- C.  $2\frac{7}{9}$
- D.  $2\frac{11}{20}$

SC READY MATH Sample Item

<b>6</b>	<b>Standard Alignment</b>	5.NSF.2
	<b>Standard Description</b>	Solve real-world problems involving addition and subtraction of fractions with unlike denominators.
	<b>Answer Key</b>	D
	<b>Depth of Knowledge</b>	2
	<b>Estimated Difficulty</b>	High Difficulty

7. Taj has 3 ounces of salt to make different recipes. He puts  $\frac{1}{4}$  ounce of the salt in each recipe. If Taj uses all of the salt, how many recipes can he make?
- A.  $\frac{1}{12}$
- B.  $\frac{3}{4}$
- C.  $3\frac{1}{4}$
- D. 12

SC READY MATH Sample Item	7	Standard Alignment	5.NSF.7.b
		Standard Description	Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations. Interpret division of a whole number by a unit fraction and compute the quotient.
		Answer Key	D
		Depth of Knowledge	2
		Estimated Difficulty	High Difficulty

8. A teacher uses  $\frac{1}{5}$  of the students in a class to make 3 equal groups. What fraction of the students in the class is in each group the teacher made?
- A.  $\frac{1}{15}$
- B.  $\frac{1}{8}$
- C.  $\frac{3}{5}$
- D.  $\frac{5}{3}$

SC READY MATH Sample Item

<b>8</b>	<b>Standard Alignment</b>	<b>5.NSF.7</b>
	<b>Standard Description</b>	Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations.
	<b>Answer Key</b>	<b>A</b>
	<b>Depth of Knowledge</b>	<b>2</b>
	<b>Estimated Difficulty</b>	<b>High Difficulty</b>

9. Rachel wrote the two number patterns shown.

- Pattern X starts with the number 3 and follows the rule “Add 5.”
- Pattern Y starts with the number 9 and follows the rule “Add 5.”

Which statement is true about Rachel’s two number patterns?

- A. The number in Pattern X will always be 6 less than the corresponding number in Pattern Y.
- B. The number in Pattern X will always be 6 more than the corresponding number in Pattern Y.
- C. The number in Pattern X will always be 5 more than the corresponding number in Pattern Y.
- D. The number in Pattern X will always be 3 times more than the corresponding number in Pattern Y.

SC READY MATH Sample Item

<b>9</b>	<b>Standard Alignment</b>	<b>5.ATO.3</b>
	<b>Standard Description</b>	Investigate the relationship between two numerical patterns.
	<b>Answer Key</b>	<b>A</b>
	<b>Depth of Knowledge</b>	<b>2</b>
	<b>Estimated Difficulty</b>	<b>Medium Difficulty</b>

10. Richard and Sebastian each make a number pattern. The table shows the first four numbers in Richard's and Sebastian's number patterns.

**Two Number Patterns**

Term	Richard's Pattern	Sebastian's Pattern
1	7	1
2	10	6
3	13	11
4	16	16

Which two sets of ordered pairs correctly show Richard's and Sebastian's number patterns?

- A. Richard's number pattern: (1, 7) (2, 10) (3, 13) (4, 16)  
Sebastian's number pattern: (1, 1) (2, 6) (3, 11) (4, 16)
- B. Richard's number pattern: (7, 1) (10, 6) (13, 11) (16, 16)  
Sebastian's number pattern: (1, 7) (6, 10) (11, 13) (16, 16)
- C. Richard's number pattern: (7, 3) (10, 3) (13, 3) (16, 3)  
Sebastian's number pattern: (1, 5) (6, 5) (11, 5) (16, 5)
- D. Richard's number pattern: (1, 7) (2, 17) (3, 30) (4, 46)  
Sebastian's number pattern: (1, 1) (2, 7) (3, 18) (4, 34)

SC READY MATH Sample Item

**10**

**Standard Alignment** 5.ATO.3.b

**Standard Description** Investigate the relationship between two numerical patterns.  
Translate the two numerical patterns into two sets of ordered pairs.

**Answer Key** A

**Depth of Knowledge** 2

**Estimated Difficulty** Medium Difficulty

11. Dominic plots a point on a coordinate grid.

- The x-coordinate is 6.
- The y-coordinate is less than the x-coordinate.

Which ordered pair could be Dominic's point on the coordinate grid?

- A. (5, 6)
- B. (6, 5)
- C. (6, 7)
- D. (7, 6)

SC READY MATH Sample Item

**11**

**Standard Alignment** 5.G.1

**Standard Description** Define a coordinate system.

**Answer Key** B

**Depth of Knowledge** 2

**Estimated Difficulty** Low Difficulty

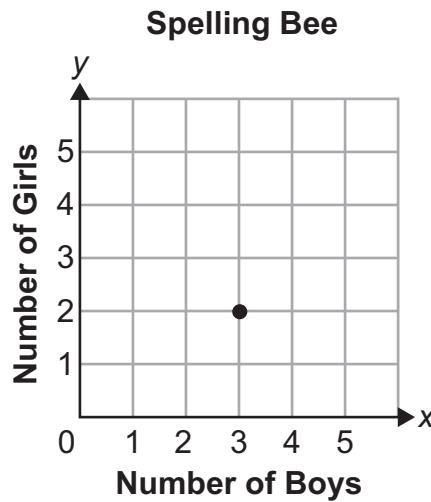
12. Which statement explains how to begin to plot the point at (5, 9) on a coordinate plane?
- A. Start at the origin and move 5 units up.
  - B. Start at the origin and move 5 units to the right.
  - C. Start at the origin and move 9 units to the right.
  - D. Start at the origin and move 9 units to the left.

SC READY MATH Sample Item

12

<b>Standard Alignment</b>	<b>5.G.1.c</b>
<b>Standard Description</b>	Define a coordinate system. The first number in an ordered pair is the $x$ -coordinate and represents the horizontal distance from the origin.
<b>Answer Key</b>	<b>B</b>
<b>Depth of Knowledge</b>	<b>3</b>
<b>Estimated Difficulty</b>	<b>Medium Difficulty</b>

13. The point on the coordinate plane represents the students from Mika's school competing in the spelling bee.



What does the ordered pair (3, 2) represent?

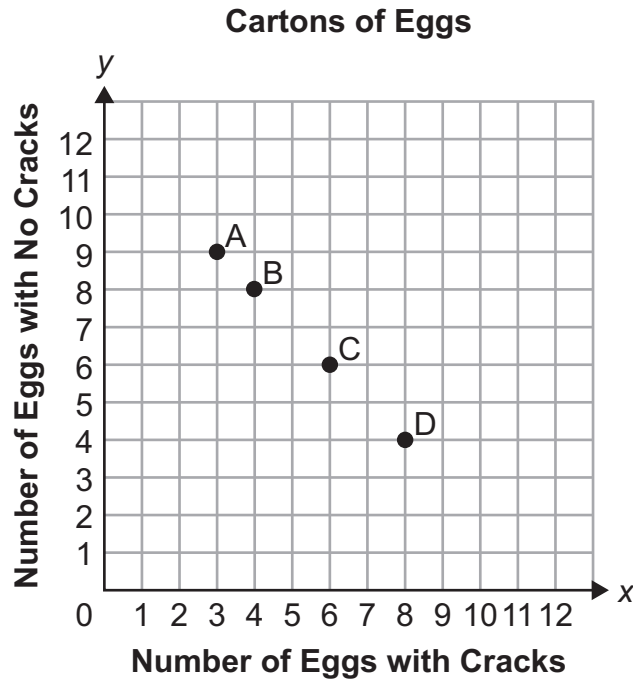
- A. There are 2 boys and 3 girls competing in the spelling bee.
- B. There are 5 boys and 2 girls competing in the spelling bee.
- C. There are a total of 5 students competing in the spelling bee and 3 of the students are girls.
- D. There are a total of 5 students competing in the spelling bee and 3 of the students are boys.

SC READY MATH Sample Item

<b>13</b>	<b>Standard Alignment</b>	<b>5.G.2</b>
	<b>Standard Description</b>	Plot and interpret points in the first quadrant of the coordinate plane to represent realworld and mathematical situations.
	<b>Answer Key</b>	<b>D</b>
	<b>Depth of Knowledge</b>	<b>2</b>
	<b>Estimated Difficulty</b>	<b>Medium Difficulty</b>



14. The coordinate grid shows four points that represent egg cartons at a grocery store.



Which point represents the egg carton with the highest number of eggs with cracks?

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

SC READY MATH Sample Item

**14**

**Standard Alignment** 5.G.2

**Standard Description** Plot and interpret points in the first quadrant of the coordinate plane to represent realworld and mathematical situations.

**Answer Key** D

**Depth of Knowledge** 2

**Estimated Difficulty** Medium Difficulty

- 15.** A parallelogram has 4 sides and each pair of opposite sides are parallel. A rhombus is a parallelogram in which all the sides are equal in length.

Which statement must be true?

- A. All parallelograms are also rhombuses.
- B. Some rhombuses are not parallelograms.
- C. Each pair of opposite sides of a rhombus are parallel.
- D. All the sides of a parallelogram are equal in length.

SC READY MATH Sample Item

**15**

<b>Standard Alignment</b>	<b>5.G.3</b>
<b>Standard Description</b>	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.
<b>Answer Key</b>	<b>C</b>
<b>Depth of Knowledge</b>	<b>3</b>
<b>Estimated Difficulty</b>	<b>High Difficulty</b>

**16.** A polygon is a regular polygon if

- all the sides are the same length, and
- all the angles are the same measure.

Which polygon is a regular polygon?

- A. a rhombus without right angles
- B. a triangle with all sides the same length
- C. a trapezoid with one set of parallel sides
- D. a rectangle with two different side lengths

<b>SC READY MATH Sample Item</b>	<b>16</b>	<b>Standard Alignment</b>	<b>5.G.3</b>
		<b>Standard Description</b>	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.
		<b>Answer Key</b>	<b>B</b>
		<b>Depth of Knowledge</b>	<b>2</b>
		<b>Estimated Difficulty</b>	<b>Medium Difficulty</b>

17. Ramona throws a baseball as far as she can a number of times. All of Ramona's attempts are between 114 and 120 feet. Which possible distance, in **yards**, can Ramona throw a baseball?
- A. 10
  - B. 39
  - C. 117
  - D. 228

SC READY MATH Sample Item

17

**Standard Alignment**

**5.MDA.1**

**Standard Description**

Convert measurements within a single system of measurement: customary (i.e., in., ft., yd., oz., lb., sec., min., hr.) or metric (i.e., mm, cm, m, km, g, kg, mL, L) from a larger to a smaller unit and a smaller to a larger unit.

**Answer Key**

**B**

**Depth of Knowledge**

**2**

**Estimated Difficulty**

**High Difficulty**

**18.** Karissa’s puppy weighs 6 pounds. How many **ounces** does Karissa’s puppy weigh?

- A. 10
- B. 16
- C. 22
- D. 96

SC READY MATH Sample Item

**18**

**Standard Alignment** 5.MDA.1

**Standard Description**

Convert measurements within a single system of measurement: customary (i.e., in., ft., yd., oz., lb., sec., min., hr.) or metric (i.e., mm, cm, m, km, g, kg, mL, L) from a larger to a smaller unit and a smaller to a larger unit.

**Answer Key** D

**Depth of Knowledge** 1

**Estimated Difficulty** Medium Difficulty

19. A school builds a fence around all of the sides of a playground. Which measurement represents the amount of fence around the playground?
- A. area
  - B. perimeter
  - C. mass
  - D. volume

SC READY MATH Sample Item	<b>Standard Alignment</b>	5.MDA.4
	<b>Standard Description</b>	Differentiate among perimeter, area and volume and identify which application is appropriate for a given situation.
	<b>19 Answer Key</b>	B
	<b>Depth of Knowledge</b>	2
	<b>Estimated Difficulty</b>	Low Difficulty

20. Sabrina fills her fish tank with water. Which type of measurement can be used to describe the amount of water in the fish tank?
- A. volume
  - B. mass
  - C. perimeter
  - D. area

<b>SC READY MATH Sample Item</b>	<b>Standard Alignment</b>	<b>5.MDA.4</b>
	<b>Standard Description</b>	Differentiate among perimeter, area and volume and identify which application is appropriate for a given situation.
	<b>20 Answer Key</b>	<b>A</b>
	<b>Depth of Knowledge</b>	<b>2</b>
	<b>Estimated Difficulty</b>	<b>Medium Difficulty</b>