



## **Grade 4 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 number is shown with a digit underlined.

193,554

How many times greater is the value of the 5 that is underlined than the value of the 5 that is not underlined?

- A. 2
- B. 10
- C. 100
- D. 500

SC READY MATH Sample Item

<b>1</b>	<b>Standard Alignment</b>	<b>4.NSBT.1</b>
	<b>Standard Description</b>	Understand that, in a multi-digit whole number, a digit represents ten times what the same digit represents in the place to its right.
	<b>Answer Key</b>	<b>B</b>
	<b>Depth of Knowledge</b>	<b>1</b>
	<b>Estimated Difficulty</b>	<b>High Difficulty</b>

2. Caroline writes down the number of minutes since she was born. She notices the digit 6 shows up twice. The value of one 6 is 10 times the value of the other 6.

Which could be the number of minutes since Caroline was born?

- A. 3,966,840
- B. 4,600,060
- C. 4,762,651
- D. 5,106,846

SC READY MATH Sample Item

<b>2</b>	<b>Standard Alignment</b>	<b>4.NSBT.1</b>
	<b>Standard Description</b>	Understand that, in a multi-digit whole number, a digit represents ten times what the same digit represents in the place to its right.
	<b>Answer Key</b>	<b>A</b>
	<b>Depth of Knowledge</b>	<b>1</b>
	<b>Estimated Difficulty</b>	<b>High Difficulty</b>

3. Which number sentence correctly compares  $\frac{11}{12}$  and  $\frac{3}{4}$ ?

A.  $\frac{11}{12} + \frac{3}{4}$

B.  $\frac{11}{12} = \frac{3}{4}$

C.  $\frac{11}{12} < \frac{3}{4}$

D.  $\frac{11}{12} > \frac{3}{4}$

SC READY MATH Sample Item

**3**

**Standard Alignment**

**4.NSF.2**

**Standard Description**

Compare two given fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) by creating common denominators or numerators, or by comparing to a benchmark fraction such as  $\frac{1}{2}$  and represent the comparison using the symbols  $>$ ,  $=$ , or  $<$ .

**Answer Key**

**D**

**Depth of Knowledge**

**2**

**Estimated Difficulty**

**Medium Difficulty**

4. What is a correct comparison for  $\frac{5}{6}$  and  $\frac{5}{8}$ ?

A.  $\frac{20}{6} < \frac{15}{8}$

B.  $\frac{20}{6} = \frac{15}{8}$

C.  $\frac{20}{24} < \frac{15}{24}$

D.  $\frac{20}{24} > \frac{15}{24}$

SC READY MATH Sample Item

4

Standard Alignment

4.NSF.2

Standard Description

Compare two given fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) by creating common denominators or numerators, or by comparing to a benchmark fraction such as  $\frac{1}{2}$  and represent the comparison using the symbols  $>$ ,  $=$ , or  $<$ .

Answer Key

D

Depth of Knowledge

2

Estimated Difficulty

Medium Difficulty

5. Kelvin cuts a loaf of bread into 12 equal pieces. He eats  $\frac{5}{12}$  of the loaf of bread.

How many pieces of bread does Kelvin eat?

- A. 5
- B. 7
- C. 12
- D. 17

SC READY MATH Sample Item

**5**

**Standard Alignment** 4.NSF.4

**Standard Description**

Apply and extend an understanding of multiplication by multiplying a whole number and a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100).

**Answer Key**

A

**Depth of Knowledge**

2

**Estimated Difficulty**

Medium Difficulty

6. What is the value of  $\frac{3}{10} \times 5$ ?

A.  $\frac{3}{50}$

B.  $\frac{15}{50}$

C.  $\frac{8}{10}$

D.  $\frac{15}{10}$

SC READY MATH Sample Item

**6**

**Standard Alignment** 4.NSF.4

**Standard Description**

Apply and extend an understanding of multiplication by multiplying a whole number and a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100).

**Answer Key**

D

**Depth of Knowledge**

1

**Estimated Difficulty**

Medium Difficulty



7. The shown list of numbers is ordered from least to greatest. The list is missing a number.

42.7 , \_\_\_\_\_ , 42.83

Which number could be the missing number from the list?

- A. 42.0
- B. 42.09
- C. 42.79
- D. 42.85

SC READY MATH Sample Item

<b>7</b>	<b>Standard Alignment</b>	<b>4.NSF.7</b>
	<b>Standard Description</b>	Compare and order decimal numbers to hundredths, and justify using concrete and visual models.
	<b>Answer Key</b>	<b>C</b>
	<b>Depth of Knowledge</b>	<b>2</b>
	<b>Estimated Difficulty</b>	<b>Low Difficulty</b>

8. Sanup compares 45.29 and 45.08 using the chart shown.

tens	ones	.	tenths	hundredths
4	5	.	2	9
4	5	.	0	8

Sanup uses the chart to show 45.29 is greater than 45.08. Which statement **best** explains why 45.29 is greater than 45.08?

- A. The value of the 2 in the first number is greater than the value of the 0 in the second number.
- B. The value of the 9 in the first number is greater than the value of the 8 in the second number.
- C. The sum of the digits 9 and the 2 in the first number is greater than the sum of the digits 8 and the 0 in the second number.
- D. The first number has four digits greater than 0 and the second number has three digits greater than 0.

9. Drew starts a book that has 474 pages. He finishes the book in 6 days. He reads 48 pages on each of the first 2 days. He reads 125 pages on each of the next 2 days. He reads  $p$  pages on each of the last 2 days.

Which equation can be used to find  $p$ , the number of pages Drew reads on each of the last 2 days?

- A.  $48 + 125 + p = 474$
- B.  $(48 \times 2) + (125 \times 2) + p = 474$
- C.  $(48 \times 2) + (125 \times 2) + (p \times 2) = 474$
- D.  $(48 \times 2) + (125 \times 2) + (p \times 2) = (474 \times 2)$

SC READY MATH Sample Item

9

**Standard Alignment** 4.ATO.3

**Standard Description**

Solve multi-step, real-world problems using the four operations.  
Represent the problem using an equation with a variable as the unknown quantity.

**Answer Key**

C

**Depth of Knowledge**

3

**Estimated Difficulty**

High Difficulty

10. Mr. Edwards has 12 pink erasers. He buys 8 boxes of white erasers. Each box of white erasers has 10 erasers in it. He puts all his erasers together. Then, he separates them into 4 equal piles.

How many erasers are in each pile?

- A. 20
- B. 23
- C. 26
- D. 32

SC READY MATH Sample Item

10

**Standard Alignment** 4.ATO.3

**Standard Description**

Solve multi-step, real-world problems using the four operations.  
Represent the problem using an equation with a variable as the unknown quantity.

**Answer Key**

B

**Depth of Knowledge**

2

**Estimated Difficulty**

High Difficulty

11. There are 48 people on a bus.

- At the library, 24 people exit the bus.
- Then, 3 people enter the bus at the library.
- Next, 3 people in each of the first 2 rows exit the bus at the community center.
- No people enter the bus at the community center.

How many people are on the bus after the stop at the community center?

- A. 9
- B. 21
- C. 22
- D. 33

SC READY MATH Sample Item

11

**Standard Alignment** 4.ATO.3

**Standard Description**

Solve multi-step, real-world problems using the four operations.  
Represent the problem using an equation with a variable as the unknown quantity.

**Answer Key**

B

**Depth of Knowledge**

2





**Estimated Difficulty**

Medium Difficulty

12. A pattern starts with the five shapes shown.



As the pattern continues, which shape will be the eighth shape in the pattern?

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

SC READY MATH Sample Item

<b>12</b>	<b>Standard Alignment</b>	4.ATO.5
	<b>Standard Description</b>	Generate a number or shape pattern that follows a given rule and determine a term that appears later in the sequence.
	<b>Answer Key</b>	D
	<b>Depth of Knowledge</b>	2
	<b>Estimated Difficulty</b>	High Difficulty

**13.** William is watching his favorite TV show online.

- The first week, he watches 3 episodes.
- Each week after that, he watches 2 episodes per week.

Which sequence shows the total number of episodes he has watched at the end of each week?

- A. 3, 6, 9, 12, 15, 18, 21
- B. 3, 5, 7, 9, 11, 13, 15
- C. 3, 6, 12, 24, 48, 96, 192
- D. 3, 5, 8, 13, 21, 34, 45

SC READY MATH Sample Item

<b>13</b>	<b>Standard Alignment</b>	<b>4.ATO.5</b>
	<b>Standard Description</b>	Generate a number or shape pattern that follows a given rule and determine a term that appears later in the sequence.
	<b>Answer Key</b>	<b>B</b>
	<b>Depth of Knowledge</b>	<b>2</b>
	<b>Estimated Difficulty</b>	<b>Medium Difficulty</b>

14. The figure shows the word wire in capital letters.

**WIRE**

Which capital letter of the word wire has more than one line of symmetry?

- A. W
- B. I
- C. R
- D. E

SC READY MATH Sample Item

14

**Standard Alignment** 4.G.4

**Standard Description**

Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

**Answer Key** B

**Depth of Knowledge** 2

**Estimated Difficulty** Medium Difficulty



- 15.** A cat weighs 3 kilograms.

How many **grams** does the cat weigh?

- A. 103
- B. 300
- C. 1,003
- D. 3,000

SC READY MATH Sample Item

**15**

**Standard Alignment** 4.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., cm, m, km, g, kg, mL, L) from a larger to a smaller unit.

**Answer Key**

D

**Depth of Knowledge**

1

**Estimated Difficulty**

Medium Difficulty

- 16.** Kent buys a bag of potatoes. He knows the weight of the bag in pounds.

How can Kent find the weight of the bag of potatoes in **ounces**?

- A. multiply the weight of the bag in pounds by 16
- B. divide the weight of the bag in pounds by 16
- C. add 16 to the weight of the bag in pounds
- D. subtract 16 from the weight of the bag in pounds

SC READY MATH Sample Item

**16**

**Standard Alignment** 4.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., cm, m, km, g, kg, mL, L) from a larger to a smaller unit.

**Answer Key**

A

**Depth of Knowledge**

2

**Estimated Difficulty**

Medium Difficulty

17. Rachel drove from her house to the beach. It took her 3 hours and 14 minutes. Then, she drove from the beach to her friend's house. That took her 1 hour and 37 minutes.

How much time did Rachel spend driving altogether?

- A. 4 hours and 23 minutes
- B. 4 hours and 51 minutes
- C. 5 hours and 1 minute
- D. 5 hours and 13 minutes

SC READY MATH Sample Item

17

<b>Standard Alignment</b>	4.MDA.2
<b>Standard Description</b>	Solve real-world problems involving distance/length, intervals of time within 12 hours, liquid volume, mass, and money using the four operations.
<b>Answer Key</b>	B
<b>Depth of Knowledge</b>	2
<b>Estimated Difficulty</b>	Low Difficulty

- 18.** Kathleen saves money to buy a shirt that costs \$10.25. She saves \$3.00 each week for 4 weeks. After the 4th week, Kathleen buys the shirt.

How much money does Kathleen have left after she buys the shirt?

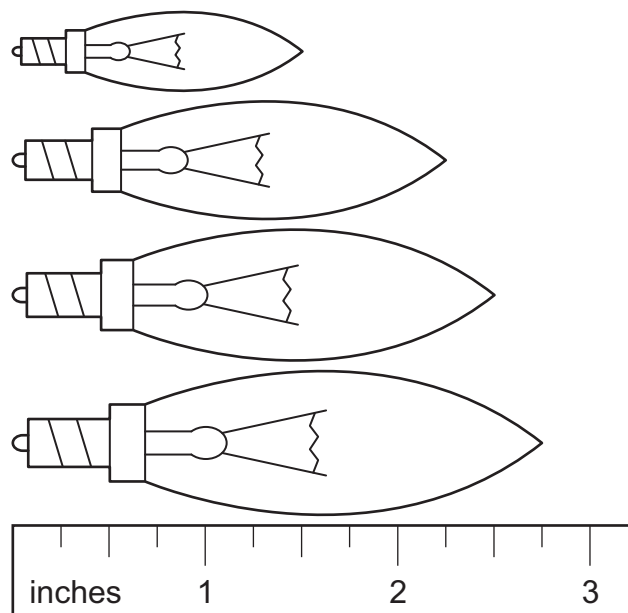
- A. \$1.75
- B. \$2.25
- C. \$2.75
- D. \$3.25

SC READY MATH Sample Item

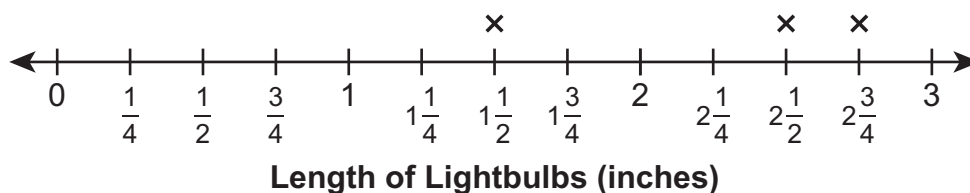
**18**

<b>Standard Alignment</b>	<b>4.MDA.2</b>
<b>Standard Description</b>	Solve real-world problems involving distance/length, intervals of time within 12 hours, liquid volume, mass, and money using the four operations.
<b>Answer Key</b>	<b>A</b>
<b>Depth of Knowledge</b>	<b>2</b>
<b>Estimated Difficulty</b>	<b>High Difficulty</b>

19. Jacob correctly measures the lengths, in inches, of 4 lightbulbs as shown.




The line plot shows the length of 3 lightbulbs.



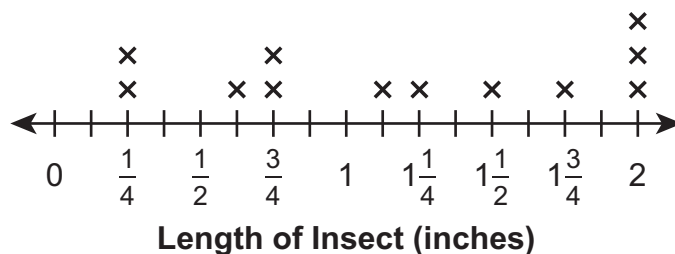
What is the length, in inches, of the lightbulb **not** represented on the line plot?

- A.  $1\frac{1}{2}$
- B.  $2\frac{1}{4}$
- C.  $2\frac{1}{2}$
- D.  $2\frac{3}{4}$

Item information on following page 

19	Standard Alignment	4.MDA.4
	Standard Description	Create a line plot to display a data set (i.e., generated by measuring length to the nearest quarter-inch and eighth-inch) and interpret the line plot.
	Answer Key	B
	Depth of Knowledge	2
	Estimated Difficulty	Medium Difficulty

20. The line plot shows the lengths, in inches, of different insects.



How many different insects are represented in the line plot?

- A. 7
- B. 8
- C. 10
- D. 12

SC READY MATH Sample Item

20

**Standard Alignment** 4.MDA.4

**Standard Description**

Create a line plot to display a data set (i.e., generated by measuring length to the nearest quarter-inch and eighth-inch) and interpret the line plot.

**Answer Key**

D

**Depth of Knowledge**

2

**Estimated Difficulty**

Medium Difficulty