The purpose of these sample test materials is to orient teachers and students to the types of paper-based FAST Mathematics questions. By using these materials, students will become familiar with the types of items and response formats they may see on a paper-based test. The sample items and answers are not intended to demonstrate the length of the actual test, nor should student responses be used as an indicator of student performance on the actual test. The sample test materials are not intended to guide classroom instruction.

Use the space in this Test and Response Book to do your work. Then, completely fill in the bubble beside the answer you choose. For some items, filling in more than one bubble may be required, so read each item carefully. If you change your answer, be sure to erase completely.

Some items will ask you to write a response in a shaded box or boxes. See the sample item below.

Sample Item:

An expression is shown.

$$(22.4)(2.65)$$

What is the value of the expression?

Write your response in the shaded box below.

Some items may have more than one box, so read each item carefully. Your answers for the items with response boxes may contain whole numbers, fractions, decimals, or negative numbers.

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Grade 6 FAST Mathematics Reference Sheet

Customary Conversions

1 foot = 12 inches
1 yard = 3 feet
1 mile = 5,280 feet
1 mile = 1,760 yards

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts

1 pound = 16 ounces
1 ton = 2,000 pounds

Metric Conversions

1 meter = 100 centimeters
1 meter = 1000 millimeters
1 kilometer = 1000 meters

1 liter = 1000 milliliters

1 gram = 1000 milligrams
1 kilogram = 1000 grams

Time Conversions

1 minute = 60 seconds
1 hour = 60 minutes
1 day = 24 hours
1 week = 7 days
1 year = 365 days
1 year = 52 weeks

Formulas

Rectangular Prism

$$V = lwh$$

or

$$V = Bh$$

Key	
l = length	B = area of base
w = width	V = volume
h = height	

1. Mr. Balboa gives a survey to a sample of students at Wilson Middle School.

Select all the questions that Mr. Balboa can ask that will generate numerical data with variation.

Ⓐ How many letters are in the English alphabet?

Ⓑ What is the total number of fluid ounces in one gallon?

Ⓒ How many classrooms does Wilson Middle School have?

Ⓓ What is the greatest number of pencils a student at Wilson Middle School has?

Ⓔ What is the average number of books read by each of Ms. Garcia's classes over the summer?

Go On

2. An expression is shown.

$$(22.4)(2.65)$$

What is the value of the expression?
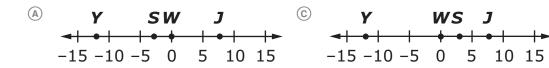
Write your response in the shaded box below.
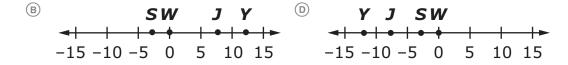
Go On

3. This question has **two** parts.

The temperatures, in degrees Celsius (°C), above or below the freezing point of water (*W*) for three products are shown.

Product	Temperature Above or Below the Freezing Point of Water (*W*)
Frozen yogurt (*Y*)	12°C below
Orange juice (*J*)	8°C above
Slushies (*S*)	3°C below

Part A

Which number line represents the temperatures, in degrees Celsius, for the frozen yogurt (*Y*), orange juice (*J*), and slushies (*S*) and the freezing point of water (*W*)?

Ⓐ

Y　　　S W　　　J

−15 −10 −5　0　5　10　15

Ⓒ

Y　　　　W S　J

−15 −10 −5　0　5　10　15

Ⓑ

S W　　J　Y

−15 −10 −5　0　5　10　15

Ⓓ

Y　J　S W

−15 −10 −5　0　5　10　15

Part B

Select all the statements that correctly compare the temperatures for serving frozen yogurt, orange juice, and slushies.

Ⓐ Frozen yogurt is served at a colder temperature than orange juice.

Ⓑ Orange juice is served at a colder temperature than frozen yogurt.

Ⓒ Frozen yogurt is served at a warmer temperature than slushies.

Ⓓ Orange juice is served at a warmer temperature than slushies.

Ⓔ Slushies are served at a warmer temperature than frozen yogurt.

Go On

4. On Monday, $\frac{5}{8}$ inch of rain fell in $\frac{2}{3}$ hour.

Which value represents the unit rate, in inches per hour?

Ⓐ $\frac{5}{12}$

Ⓑ $\frac{15}{16}$

Ⓒ $\frac{16}{15}$

Ⓓ $\frac{31}{24}$

Go On

5. Evaluate the expression $c + 3\left(\dfrac{c}{d}\right) \cdot d$, where $c = -4$ and $d = 2$.

Write your response in the shaded box below.

6. Ms. Becker records the number of times each student in her class has visited the Science Museum. Based on the responses, she calculates the mean, median, and range of the data set.

Ms. Becker's entire class then goes on a field trip to the Science Museum. She updates the data set to include the field trip to the Science Museum.

Select words or phrases to complete the statements to describe the impact of the changes. For each box, fill in the bubble before the word or phrase that is correct.

The mean of the data set
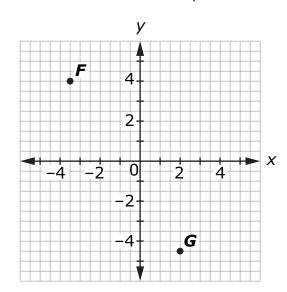| |
|---|
| Ⓐ increases |
| Ⓑ decreases |
| Ⓒ stays the same |
.

The median of the data set
Ⓐ increases
Ⓑ decreases
Ⓒ stays the same
.

The range of the data set
Ⓐ increases
Ⓑ decreases
Ⓒ stays the same
.

Go On

7. Two points are shown on the coordinate plane.

Fill in bubbles to match each point with its coordinates.

	$\left(2, -4\frac{1}{2}\right)$	$\left(3\frac{1}{2}, 4\right)$	$\left(-3\frac{1}{2}, 4\right)$	$\left(-4\frac{1}{2}, 2\right)$
point F	Ⓐ	Ⓑ	Ⓒ	Ⓓ
point G	Ⓔ	Ⓕ	Ⓖ	Ⓗ

Go On

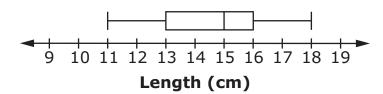**8.** Kate has $\frac{3}{4}$ ounce of lip balm. She makes $1\frac{1}{2}$ more ounces of lip balm.

She measures $\frac{1}{2}$-ounce portions of lip balm and places the portions in individual containers.

Complete the statement to describe how many containers Kate will use and whether she will have any lip balm remaining. For each blank, fill in the bubble **before** the number or phrase that is correct.

Kate will use _____ [Ⓐ 2 Ⓑ 4 Ⓒ 5 Ⓓ 9] containers, each holding $\frac{1}{2}$ ounce of lip balm. She _____ [Ⓐ will have Ⓑ will not have any] lip balm remaining.

9. The students in a math class measure their pencils to the nearest centimeter (cm) and create the box plot shown.

Pencil Lengths

Length (cm)

This question has **two** parts.

Part A

What is the length, in centimeters, of the shortest pencil in the class?

Write your response in the shaded box below.

Part B

What is the length, in centimeters, of the longest pencil in the class?

Write your response in the shaded box below.

Go On

10. Select all the values that are equivalent to 4.175.

Ⓐ $4\dfrac{1}{8}$

Ⓑ $4\dfrac{7}{40}$

Ⓒ $\dfrac{167}{4}$

Ⓓ $\dfrac{33}{8}$

Ⓔ 41.75%

Ⓕ 417.5%

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