Grade 7

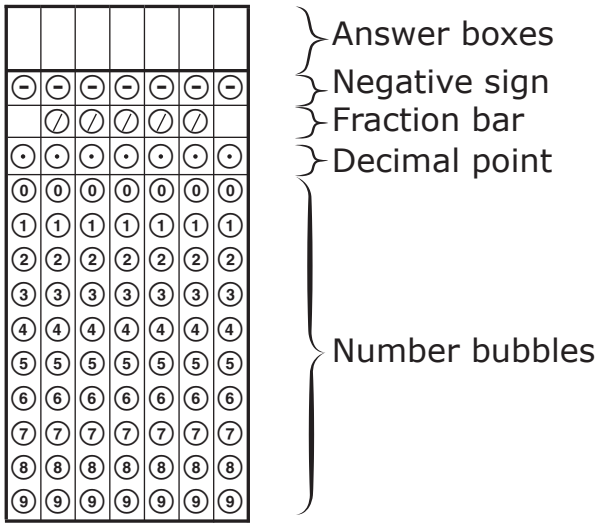
FAST Mathematics

Sample Test Materials

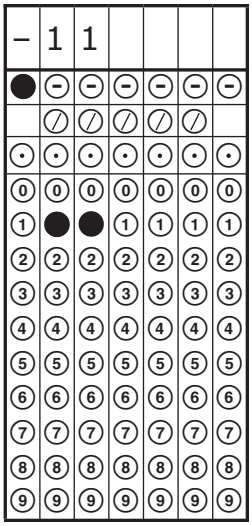
The purpose of these sample test materials is to orient teachers and students to the types of paper-based FAST Mathematics questions. By using these materials, students will become familiar with the types of items and response formats they may see on a paper-based test. The sample items and answers are 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.

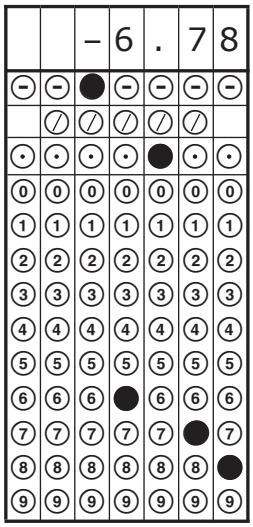
Directions for Completing the Response Grids

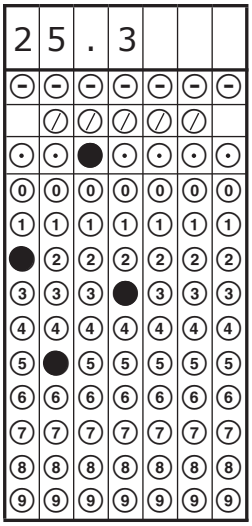
1. Work the problem and find an answer.
2. Write your answer in the answer boxes at the top of the grid.
    - Write your answer with the first digit in the left answer box OR with the last digit in the right answer box.
    - Write only one digit or symbol in each answer box. Do NOT leave a blank answer box in the middle of an answer.
    - Be sure to write a decimal point, negative sign, or fraction bar in the answer box if it is a part of the answer.
3. Fill in a bubble under each box in which you wrote your answer.
    - Fill in one and ONLY one bubble for each answer box. Do NOT fill in a bubble under an unused answer box.
    - Fill in each bubble by making a solid mark that completely fills the circle.
    - You MUST fill in the bubbles accurately to receive credit for your answer.

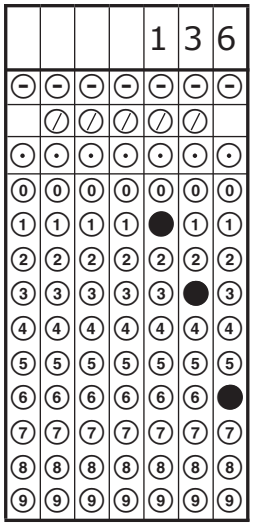


When a percent is required to answer a question, do NOT convert the percent to its decimal or fractional equivalent. Grid in the percent value without the % symbol. Do the same with dollar amounts.





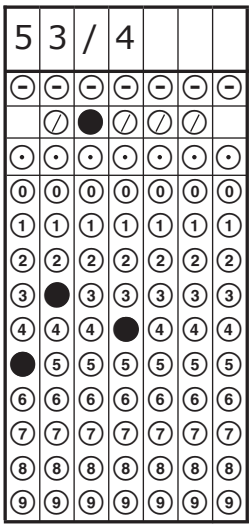




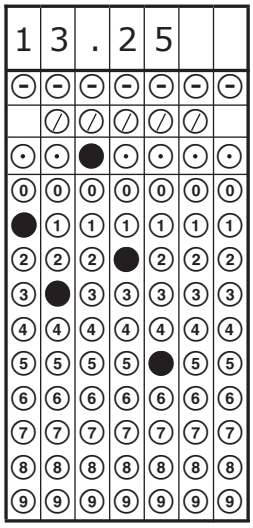
Do NOT write a mixed number, such as $13\frac{1}{4}$, in the answer boxes.

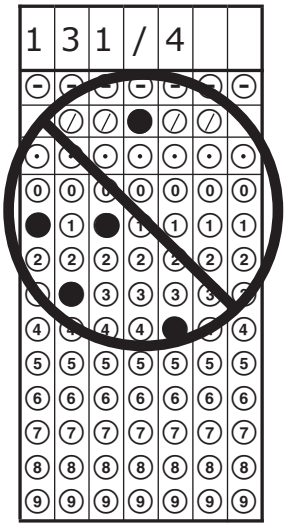
Change the mixed number to an equivalent fraction, such as $\frac{53}{4}$, or to an equivalent decimal, such as 13.25. Do not try to fill in $13\frac{1}{4}$, as it would be read as $\frac{131}{4}$ and would be counted wrong.

CORRECT **INCORRECT**



OR





Grade 7 FAST Mathematics Reference Sheet

Conversions within a System of Measure

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

Conversions between Systems of Measure

Customary to Metric Conversion Approximations

1 inch = 2.54 centimeters
1 foot = 0.305 meters
1 mile = 1.61 kilometers

1 cup = 0.24 liters
1 gallon = 3.785 liters
1 ounce = 28.35 grams
1 pound = 0.454 kilograms

Metric to Customary Conversion Approximations

1 centimeter = 0.39 inches
1 meter = 3.28 feet
1 kilometer = 0.62 miles

1 liter = 4.23 cups
1 liter = 0.264 gallons
1 gram = 0.0352 ounces
1 kilogram = 2.204 pounds

Grade 7 FAST Mathematics Reference Sheet

Formulas

Parallelogram	$A = bh$
Or Rhombus	$A = lw$
Trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$
Circle	$C = 2\pi r$ or $C = \pi d$ $A = \pi r^2$
Right Circular Cylinder	$V = Bh$ or $V = \pi r^2 h$

Key	
b = base h = height l = length w = width r = radius d = diameter B = area of base	A = area C = circumference V = volume

Simple Interest Formula

$$I = prt$$

where I = interest, p = principal, r = rate, t = time

Percent Error Formula

$$\frac{|Estimate - Actual|}{Actual} \times 100$$

Percent of Change

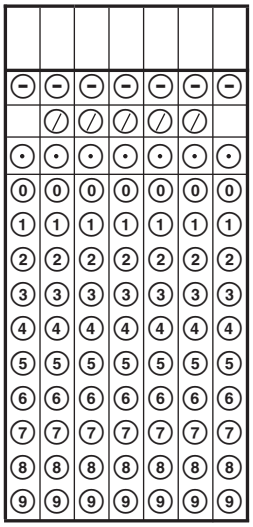
$$\frac{final\ value - initial\ value}{initial\ value} \times 100$$

DO NOT REMOVE THIS SHEET

Segment 1

Use the space in this Test and Answer 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. For items with response grids, follow the Directions for Completing the Response Grids on pages 3 and 4. If you change your answer, be sure to erase completely.

1. What is the product of $\left(-\frac{3}{4}\right)$ and $\left(\frac{3}{4}\right)$?



Go On

2. Melanie has a spinner and a deck of cards.

- The probability of spinning an even number on the spinner is $\frac{2}{5}$.
- The probability of drawing an even number from the deck of cards is $\frac{5}{13}$.

Complete the statement to compare the probabilities. For each box, fill in the bubble before the phrase or comparison that is correct.

P(spinning an even number) is

Ⓐ equal to
Ⓑ less than
Ⓒ greater than

P(drawing an even number card) because

Ⓐ $2 < 5$
Ⓑ $5 < 13$
Ⓒ $\frac{2}{5} > \frac{5}{13}$
Ⓓ $\frac{2}{5} < \frac{5}{13}$
Ⓔ $\frac{2}{5} = \frac{5}{13}$

.

Go On

This is the end of Segment 1.

Segment 2

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Percent of Change

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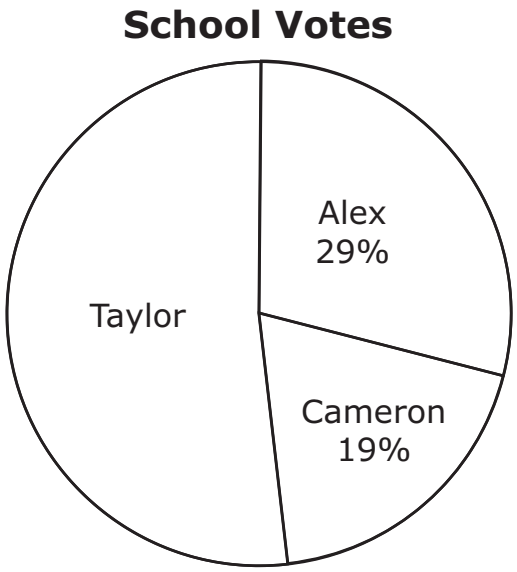
DO NOT REMOVE THIS SHEET

3. A school holds an election for class president. The percentage of votes received by Taylor, Alex, and Cameron are shown in the circle graph.



What percentage of the votes did Taylor receive?

Ⓐ 48%

Ⓑ 52%

Ⓒ 71%

Ⓓ 81%

Go On

4. Fill in bubbles to match the equivalent expressions.

	$3m + 4$	$5m + 4$
$2(m + 3) + m - 2$	Ⓐ	Ⓑ
$5(m + 1) - 1$	Ⓒ	Ⓓ
$m + m + m + 1 + 3$	Ⓔ	Ⓕ

Go On

5. An inequality is shown.

$$-4p > -60$$

Fill in the bubble **before** the correct inequality symbol and complete the response grid to enter a value to represent the solution to the inequality.

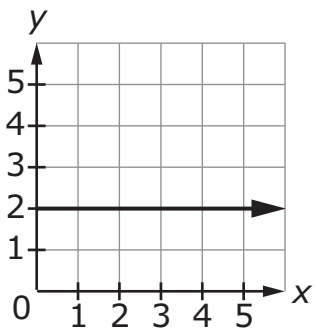
p [Ⓐ < Ⓑ >]

⊖	⊖	⊖	⊖	⊖	⊖	⊖
	⊘	⊘	⊘	⊘	⊘	
⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

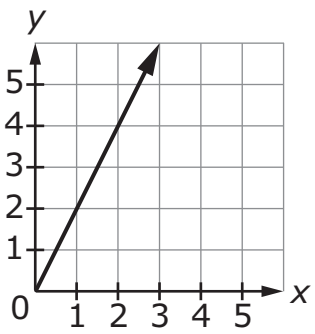
Go On

6. Select all the representations that show a proportional relationship between x and y.

Ⓐ



Ⓒ



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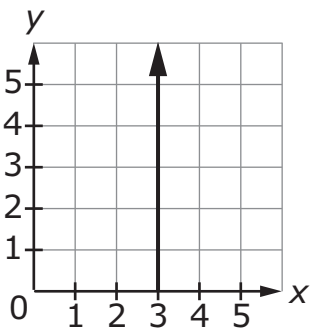

Ⓑ

x	*y*
0	0
2	4
4	16
6	36

Ⓓ

x	*y*
0	0
2	8
4	16
6	24

Go On

This is the end of Segment 2.

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Office of Assessment
Florida Department of Education, Tallahassee, Florida