Ohio Achievement Test
Grade 5 Mathematics

Spring 2009

Answer Key
and
Scoring Guidelines

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Item No.	Type	Content Standard	Content Standard Benchmark	Key
1	Multiple Choice	Number, Number Sense and Operations	B	Not for Public Release
2	Multiple Choice	Geometry and Spatial Sense	F	B
3	Multiple Choice	Data Analysis and Probability	A	Not for Public Release
4	Multiple Choice	Patterns, Functions, and Algebra	A	Not for Public Release
5	Short Answer	Geometry and Spatial Sense	B	Not for Public Release
6	Multiple Choice	Number, Number Sense and Operations	B	C
7	Multiple Choice	Geometry and Spatial Sense	C	B
8	Multiple Choice	Measurement	A	Not for Public Release
9	Multiple Choice	Number, Number Sense and Operations	E	D
10	Extended Response	Measurement	B; C	Not for Public Release
11	Multiple Choice	Geometry and Spatial Sense	J	D
12	Multiple Choice	Number, Number Sense and Operations	A	Not for Public Release
13	Multiple Choice	Data Analysis and Probability	J	A
14	Multiple Choice	Patterns, Functions, and Algebra	B	D
15	Short Answer	Number, Number Sense and Operations	E	Not for Public Release
16	Multiple Choice	Geometry and Spatial Sense	I	A
17	Multiple Choice	Number, Number Sense and Operations	D	Not for Public Release
18	Multiple Choice	Measurement	C	Not for Public Release
19 – 24	**Field Test Items Not Used in Student Score**			
25	Short Answer	Patterns, Functions, and Algebra	L	2 pt rubric
26	Multiple Choice	Number, Number Sense and Operations	I	Not for Public Release
27	Multiple Choice	Geometry and Spatial Sense	D	Not for Public Release
28	Multiple Choice	Data Analysis and Probability	A	Not for Public Release
29	Short Answer	Number, Number Sense and Operations	H	2 pt rubric
30	Multiple Choice	Measurement	G	C
31	Multiple Choice	Patterns, Functions, and Algebra	C	Not for Public Release
32	Multiple Choice	Number, Number Sense and Operations	E	Not for Public Release
33	Extended Response	Data Analysis and Probability	I	4 pt rubric
34	Multiple Choice	Number, Number Sense and Operations	D	Not for Public Release
35	Multiple Choice	Geometry and Spatial Sense	G	Not for Public Release
36	Multiple Choice	Patterns, Functions, and Algebra	F	B
37	Multiple Choice	Number, Number Sense and Operations	I	B
38	Short Answer	Measurement	B	Not for Public Release
39	Multiple Choice	Patterns, Functions, and Algebra	C	Not for Public Release
40	Multiple Choice	Number, Number Sense and Operations	I	C
41	Multiple Choice	Data Analysis and Probability	F	Not for Public Release
42	Short Answer	Patterns, Functions, and Algebra	C	2 pt rubric
43	Multiple Choice	Geometry and Spatial Sense	D	Not for Public Release
44	Multiple Choice	Number, Number Sense and Operations	F	D
45	Multiple Choice	Measurement	B	A
46	Multiple Choice	Data Analysis and Probability	J	B

Limited = 0-19; Basic = 20-25; Proficient = 26-33; Accelerated = 34-38; Advanced = 39-52
Multiple Choice = 1 point; Short Answer = 2 points; Extended Response = 4 points

25. In your **Answer Document**, describe the relationship between the number of pages Morgan read each day and the amount of time she spent reading. (**2 points**)

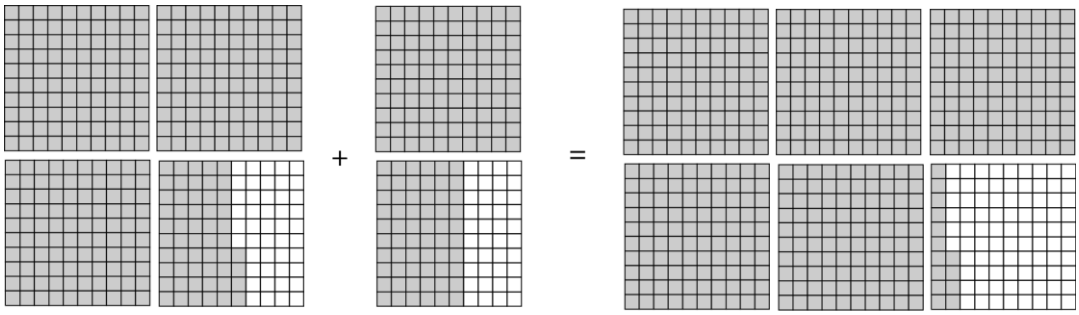
Morgan continues to read at the same rate. Determine the amount of time it will take her to read 30 pages. Show work or explain how you determined the amount of time it will take Morgan to read 30 pages.

Scoring Guidelines

Points	Student Response
2 point	The focus of this task is describing how the quantitative change in a variable affects the value of a related variable. The response provides an adequate description about the relationship between time and the number of pages read **AND** provides the correct time for reading 30 pages with supporting work or an adequate explanation. **Sample response:** • Morgan reads 5 pages every 15 minutes, or 1 page in 3 minutes (15÷5=3). 30 pages x 3 minutes/pages = 90 minutes or, 1 and a half hours to read 30 pages. • Since Morgan reads 15 pages in 45 minutes, at this rate, she will double the number of pages in 90 minutes and read 30 pages (15 × 2 = 30 and 45 × 2 = 90).
1 point	The response shows partial evidence of describing how the quantitative change in a variable affects the value of a related variable; however, the solution may be incomplete or slightly flawed. **Sample response:** • Only provide an accurate statement about the relationship between time and pages read. • Only provide an accurate time for reading 30 pages.
0 point	The response provides inadequate evidence of describing how the quantitative change in a variable affects the value of a related variable. The response provides major flaws in explanations or irrelevant information. **Sample response:** • Provide a statement that Morgan reads 3 pages in 1 minute. • Restate the information provided in the item. • Be blank or give irrelevant information

29. In your **Answer Document,** use pictures, numbers or words to explain which student correctly added the decimals. (**2 points**)

Scoring Guidelines

Points	Student Response
2 point	The focus of this task is adding decimals by using place value. The response correctly identifies the person who correctly adds the decimals, with supporting work or an adequate explanation. **Sample response:** • Meg is correct because she lined up the decimals and added correctly. • Meg is correct because Scott did not line up the decimals before he added. • Meg is correct because she added hundredths to hundredths, tenths to tenths and ones to ones. • Meg is correct because:  3.54 1.6 5.14
1 point	The response provides partial evidence of the addition of decimals by using place value; however, the solution may be incomplete or slightly flawed. **Sample response:** • State that Meg is correct, but give an explanation that is flawed, such as, “She aligned the numbers from the left.” • State that Scott is correct, but give an explanation demonstrating an understanding of adding decimals, such as, “He aligned the decimals, added and brought the decimal down.”
0 point	The response provides inadequate evidence of the addition of decimals by using place value. The response provides major flaws in reasoning or irrelevant information. **Sample response:** • State that Scott is correct because he added straight down. • Be blank or state unrelated statements.

33. In your **Answer Document**, determine the number of cards of each color Monica will need to add so that the probability of picking a red, green, blue, or yellow card is the same. Explain how you determined the number of each color. Then, state the probability of picking one of the colors. (**4 points**)

Scoring Guidelines

Points	Student Response
4 point	The focus of this task is creating a simple experiment so that each choice will have the same probability. The response provides the correct number of cards to be added so that the probability of picking one of the colors is the same for all choices with an adequate explanation **AND** the correct probability of picking one of the colors. **Sample response:** Monica has 5 green cards. She could add 2 red cards, 1 blue card and 5 yellow cards. I know this because each color must have the same number of cards. The probability would be $\frac{5}{20}$ or $\frac{1}{4}$ for any color.
3 point	The response provides evidence of creating a simple experiment so that each choice will have the same probability; however, the solution may contain a slight error, a flaw or a vague explanation. **Sample response:** • Provide the number of cards added without an adequate explanation but provide the correct probability. • Make a minor counting error in the number of one of the cards that leads to an incorrect number of cards but gives the correct probability.
2 point	The response provides partial evidence of creating a simple experiment so that each choice will have the same probability; however, the solution is incomplete and/or contains minor flaws. **Sample response:** • Only provide the correct number of cards added of each type with or without an adequate explanation, but fail to provide a probability.
1 point	The response provides minimal evidence of creating a simple experiment so that each choice will have the same probability. The response has major flaws and errors in reasoning. **Sample response:** • Provide the correct probability of drawing any of the color cards before or after adding the yellow cards. • Only provide an adequate explanation for finding the number of cards; such as, “All have the same amount.”
0 point	The response provides inadequate evidence of creating a simple experiment so that each choice will have the same probability. The response provides major flaws in explanations or irrelevant information. **Sample response:** • State that it is impossible to have the same probability since there are different numbers of cards. • Restate the information provided in the item. • Be blank or give irrelevant information.

42. In your **Answer Document**, write an equation for the total cost (*t*) of buying any number of books (*b*) at the book fair. (**2 points**)

Use your equation to find the total cost of buying 7 books at the book fair.

Scoring Guidelines

Points	Student Response
2 point	The focus of this task is using variables to create and solve an equation that represents a problem situation. The response provides a correct equation and correctly solves the equation. **Sample response:** • t = 3b; t = (3 x 7); t = $21
1 point	The response provides partial evidence of using variables to create and solve an equation that represents a problem situation; however, the solution may be incomplete or slightly flawed. **Sample response:** • Provide a correct equation but fail to find the correct cost. • Provide an incorrect equation, which is solved correctly. • Provide a correct solution without writing an equation with given variables, such as 3 x 7 = 21.
0 point	The response provides inadequate evidence of using variables to create and solve an equation that represents a problem situation. The response provides major flaws in reasoning or irrelevant information. **Sample response:** • Provide an incorrect equation and solve incorrectly. • Be blank or state unrelated statements. • Recopy information from the stem.