Ohio Achievement Test
Grade 4 Mathematics

May 2008

Answer Key
and
Scoring Guidelines

Grade 4 Mathematics
Answer Key
May 2008

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

Limited = 0-17; Basic = 18-24; Proficient = 25-36; Accelerated = 37-42; Advanced = 43-52
Multiple Choice = 1 point; Short Answer = 2 points; Extended Response = 4 points

5. The table shows the number of cans of paint Joe used to paint benches.

Cans of Paint Used to Paint Benches

Number of Cans	Number of Benches
2	4
4	8
6	12
8	

How many benches can he paint with 8 cans of paint?
Use pictures, words or numbers to explain how you found the number of benches.

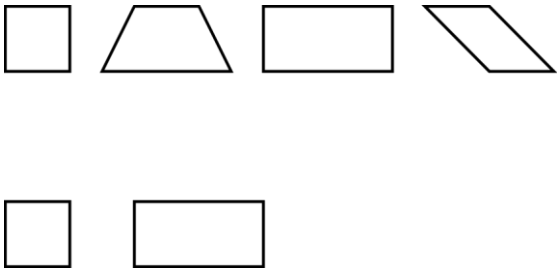
Scoring Guidelines

Points	Student Response
2 point	**Sample Response**: • 16 benches. The pattern is that you multiply the number of cans by 2 to get the number of benches you can paint. 8 × 2 = 16 • 16 benches. The table shows that the number of benches goes up by 4 so I added 12 + 4 = 16. • 16 benches. The number of cans is doubled to get the number of benches. 8 + 8 = 16. The focus of this task is to provide evidence of analyzing, extending and describing patterns. The response correctly identifies the number of benches and provides adequate support to explain how to find the answer.
1 point	The response provides partial evidence of analyzing, extending and describing patterns; however, the solution may be incomplete or slightly flawed. **Sample Response:** The response may: • State that 16 benches can be painted but not explain how the answer was found or there is a flaw in the explanation. • Indicate an accurate rule for finding the number of benches that can be painted but does not correctly find the number of benches that can be painted. E.g., 14 benches. You keep adding 4 to the number of benches.
0 point	The response provides inadequate evidence of analyzing, extending and describing patterns. The response will provide major flaws or irrelevant information. **Sample Response:** The response may: • Show some work but use a highly flawed strategy. e.g., 20 benches. Add 4 + 8 = 12, 8 + 12 = 20. • Be blank or state unrelated statements. • Recopy information from the stem.

10. Joe and Janice are playing a guessing game. Joe tells Janice that he is thinking of a quadrilateral with at least one pair of parallel sides. Draw 4 different types of quadrilaterals that Janice could guess from Joe's first hint.

Then, Joe tells Janice that the figure has 4 right angles. Draw 2 quadrilaterals that Janice could guess from Joe's first and second hints. Write a third hint that describes only one of these shapes. Identify the shape.

Scoring Guidelines

Points	Student Response
4 point	The focus of this task is drawing two-dimensional figures using their attributes. The response provides four correct figures with at least one pair of parallel sides **AND** two correct figures that also have four right angles. The response also provides a description of one of the two shapes with the correct name.  **Hint**: The figure has 4 equal sides; the figure is a square.
3 point	The response provides evidence of drawing two-dimensional figures using their attributes; however, the solution may contain a slight error, a flaw or a vague explanation. **Sample Response:** The response may: • Correctly name all of the figures instead of sketching them and provide a correct third hint that describes only one of the two remaining shapes with the correct name of the shape. • Correctly sketch all of the figures and provide a correct third hint that describes only one of the two remaining shapes; but sketches the final shape instead of naming it. • Provide three correct sketches of quadrilaterals, two figures that match both rules, and an appropriate third hint along with the correct name of the shape.
2 point	The response provides partial evidence of drawing two-dimensional figures using their attributes; however, the solution is incomplete and/or contains minor flaws. **Sample Response:** The response may: • Provide four sketches of figures but one of them is incorrect; also provide two sketches based on the second hint, but one may be incorrect; the final hint is based on the correctly drawn figure and includes the correct name of the shape. • Only provide two correct sketches based on the second hint, and an appropriate third hint along with the correct name of the shape.

1 point	The response provides minimal evidence of drawing two-dimensional figures using their attributes. The response contains major flaws and errors in reasoning. **Sample Response:** The response may: • Only provide sketches of the first four figures. • Only provide sketches of the two figures based on the second hint. • Provide the third hint and sketch the shape.
0 point	The response provides inadequate evidence of drawing two-dimensional figures using their attributes. The response provides major flaws in explanations or irrelevant information. **Sample Response:** The response may: • Sketch the incorrect shapes. • Restate the information provided in the item. • Be blank or state irrelevant information.

38. The table shows the number of books sold at the book fair.

Type of Book	Number Sold
Fantasy	39
Mystery	27
Short Stories	20
Literature	29
Biography	14

It was estimated that about 200 books were sold. Determine whether this estimate is reasonable. Explain your decision.

Scoring Guidelines

Points	Student Response
2 point	The focus of this task is determining the reasonableness of results found from estimates of computations involving whole numbers. The response provides the reasonableness of the estimate with an adequate explanation. **NOTE**: Adding the number of books sold as an explanation is acceptable. • No, it's not a reasonable estimate because I estimated and added 30 + 20 + 20 + 20 + 10, and it only comes to 100 books sold. • No, the estimate is not reasonable. I rounded the numbers to 40 + 30 + 20 + 30 + 10 = 130, this is much less than 200.
1 point	The response shows partial evidence of determining the reasonableness of results found from estimates of computations involving whole numbers; however, the solution may be incomplete or slightly flawed. **Sample Response**: The response may: • State that the estimate is not reasonable and provide an incomplete or slightly flawed explanation. • Show how they estimated the number of books sold, but make no claim as to whether or not the estimate is reasonable.
0 point	The response provides inadequate evidence of determining the reasonableness of results found from estimates of computations involving whole numbers. The response provides an explanation with major flaws and errors of reasoning. **Sample Response**: The response may: • State that the estimate is or is not reasonable and provide no explanation or work. • Restate the information provided in the item. • Be blank or give irrelevant information.