

**Ohio Achievement Test
Grade 6 Mathematics**

Spring 2009

**Answer Key
and
Scoring Guidelines**

**Grade 6 Mathematics
Answer Key
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Item No.	Type	Content Standards	Content Standard Benchmark	Key
1	Multiple Choice	Number, Number Sense, and Operations	D	Not for Public Release
2	Multiple Choice	Measurement	F	B
3	Multiple Choice	Patterns, Functions, and Algebra	E	Not for Public Release
4	Multiple Choice	Data Analysis and Probability	A	B
5	Multiple Choice	Measurement	C	A
6	Short Answer	Geometry and Spatial Sense	D	Not for Public Release
7	Multiple Choice	Data Analysis and Probability	K	C
8	Multiple Choice	Patterns, Functions, and Algebra	H	A
9	Multiple Choice	Geometry and Spatial Sense	F	B
10	Multiple Choice	Data Analysis and Probability	A	Not for Public Release
11	Extended Response	Number, Number Sense, and Operations	I	4 pt rubric
12	Multiple Choice	Patterns, Functions, and Algebra	A	Not for Public Release
13	Multiple Choice	Measurement	C	Not for Public Release
14	Multiple Choice	Geometry and Spatial Sense	A	Not for Public Release
15	Multiple Choice	Number, Number Sense, and Operations	I	Not for Public Release
16	Short Answer	Measurement	G	2 pt rubric
17 – 22	Field Test Items Not Used in Student Score			
23	Multiple Choice	Patterns, Functions, and Algebra	J	D
24	Multiple Choice	Geometry and Spatial Sense	H	A
25	Multiple Choice	Number, Number Sense, and Operations	G	C
26	Short Answer	Patterns, Functions, and Algebra	A	Not for Public Release
27	Multiple Choice	Data Analysis and Probability	G	C
28	Multiple Choice	Measurement	E	Not for Public Release
29	Multiple Choice	Number, Number Sense, and Operations	H	Not for Public Release
30	Multiple Choice	Geometry and Spatial Sense	I	C
31	Short Answer	Number, Number Sense, and Operations	G	Not for Public Release
32	Multiple Choice	Patterns, Functions, and Algebra	K	D
33	Multiple Choice	Measurement	F	C
34	Multiple Choice	Number, Number Sense, and Operations	C	Not for Public Release
35	Multiple Choice	Geometry and Spatial Sense	D	C
36	Extended Response	Data Analysis and Probability	G	Not for Public Release
37	Multiple Choice	Number, Number Sense, and Operations	I	A
38	Multiple Choice	Measurement	C	Not for Public Release
39	Multiple Choice	Patterns, Functions, and Algebra	G	Not for Public Release
40	Multiple Choice	Number, Number Sense, and Operations	I	C
41	Short Answer	Patterns, Functions, and Algebra	K	2 pt rubric
42	Multiple Choice	Data Analysis and Probability	E	Not for Public Release
43	Multiple Choice	Geometry and Spatial Sense	D	Not for Public Release
44	Multiple Choice	Number, Number Sense, and Operations	E	Not for Public Release
45	Multiple Choice	Patterns, Functions, and Algebra	L	Not for Public Release

Limited = 0-14; Basic = 15-20; Proficient = 21-29; Accelerated = 30-35; Advanced = 36-50
Multiple Choice = 1 point; Short Answer = 2 points; Extended Response = 4 points

11. In your **Answer Document**, determine the amount that Joan will save when she buys one bottle of shampoo, one tube of toothpaste and one container of hair gel at the sale prices. Show or explain how much she will save. (4 points)

Scoring Guidelines

Points	Student Response
4 point	<p>The focus of the task is performing computations with fractions and decimals to solve problems. The response provides the correct savings amount with adequate support.</p> <p>Sample response:</p> <p>Sale Price: Shampoo : $7.50 \times \frac{1}{3} = 2.50$ Toothpaste: $4.50 \times \frac{1}{2} = 2.25$ Hair gel: $6.00 \times 0.25 = 1.50$</p> <ul style="list-style-type: none"> Regular Price: $7.50 + 4.50 + 6.00 = \\$18.00$ Sale Price: Shampoo: $7.50 \times \frac{2}{3} = 5.00$ Toothpaste: $4.50 \times \frac{1}{2} = 2.25$ Hair gel: $6.00 \times .75 = 4.50$ Total Sale Price: $5.00 + 2.25 + 4.50 = \\$11.75$ Saved: $18.00 - 11.75 = \\$6.25$ Shampoo: $7.50 \times 0.33 = \\$2.48$ Toothpaste: $4.50 \times 0.5 = 2.25$ Hair gel: $6.00 \times 0.25 = 1.50$ Savings: $2.48 + 2.25 + 1.50 = \\$6.23$
3 point	<p>The response provides adequate evidence of performing computations with fractions and decimals to solve problems. The response provides work with a minor error or flaw in the computation or explanation.</p> <p>Sample response:</p> <ul style="list-style-type: none"> Show the correct process for finding all of the new prices but with a computational error which causes an incorrect amount saved. Provide the correct final answer with a vague explanation or partial work.
2 point	<p>The response provides partial evidence of performing computations with fractions and decimals to solve problems. The response provides work with minor errors or flaws OR vague explanation.</p> <p>Sample response:</p> <ul style="list-style-type: none"> Provide the correct computations for finding the sale price but does not find the amount(s) saved. Provide the correct computation or show the correct process for finding the sale price or savings for two of the three products. The answer may or may not provide the process for determining the amount saved. Provide the correct final answer without work or explanation.
1 point	<p>The response provides minimal evidence of performing computations with fractions and decimals to solve problems. The response will have multiple errors or flaws AND a vague explanation.</p> <p>Sample response:</p> <ul style="list-style-type: none"> Provide one correct computation for finding the correct sale price of an item. Provide one correct computation for finding the amount of savings for an item.
0 point	<p>The response provides inadequate evidence of performing computations with fractions and decimals to solve problems. The response provides major flaws in explanations or irrelevant information.</p> <p>Sample response:</p> <ul style="list-style-type: none"> Provide the total of the regular priced items. Be blank or make unrelated statements. Recopy information provided in the stem.

16. In your **Answer Document**, draw two different rectangles with an area of 48 square feet, but with different perimeters. (2 points)

Then, determine which of your designs will require less fencing.

Scoring Guidelines

Points	Student Response
2 point	<p>The focus of this task is drawing two rectangles with the same area, but different perimeters. The response provides two rectangles that have the same area and indicates which garden would require less fencing.</p> <p>Sample response:</p> <div style="text-align: center;"> <p>24</p> <p>2 Garden 1</p> <p>8</p> <p>6 Garden 2</p> </div> <ul style="list-style-type: none"> • Garden 1: $2 \times 24 = 48$ square feet • Garden 2: $8 \times 6 = 48$ square feet • Garden 1's Fence: $2 + 24 + 2 + 24 = 52$ feet • Garden 2's Fence: $8 + 6 + 8 + 6 = 28$ feet • Garden 2 (8×6) requires less fencing. <p>NOTE: Other combinations of dimensions are possible to arrive at 48 square feet of area and all are acceptable.</p>
1 point	<p>The response shows partial evidence of drawing two rectangles with the same area, but different perimeters; however, the solution may be incomplete or slightly flawed.</p> <p>Sample response:</p> <ul style="list-style-type: none"> • Provide two rectangles with the correct area, but without indicating which garden requires less fencing. • Only provide that the rectangle with dimensions closest to a square would require the least fencing.
0 point	<p>The response provides inadequate evidence of drawing two rectangles with the same area, but different perimeters. The response provides an explanation with major flaws and errors of reasoning.</p> <p>Sample response:</p> <ul style="list-style-type: none"> • Provide two congruent rectangles. • Restate the information provided in the item. • Be blank or give irrelevant information

41. In your **Answer Document**, determine the number of miles per gallon the truck gets. Explain how you found the number of miles per gallon. (2 points)

Scoring Guidelines

Points	Student Response
2 point	<p>The focus of this task is interpreting graphs that represent the relationship between two variables. The response provides an accurate number of miles per gallon with an adequate explanation.</p> <p>Sample response:</p> <ul style="list-style-type: none"> • The truck gets 10 miles per 1 gallon because every 10 miles the number of gallons of gas decreases by 1 gallon. • The truck gets 20 miles per every 2 gallons of gas. So, the truck gets 10 miles per 1 gallon.
1 point	<p>The response shows partial evidence of interpreting graphs that represent the relationship between two variables; however, the solution may be incomplete or slightly flawed.</p> <p>Sample response:</p> <ul style="list-style-type: none"> • State the correct number of miles per gallon but fail to provide an adequate explanation. • State the correct number of miles for every 2 gallons with an adequate explanation but fail to provide miles per gallon.
0 point	<p>The response provides inadequate evidence of interpreting graphs that represent the relationship between two variables. The response provides an explanation with major flaws and errors of reasoning.</p> <p>Sample response:</p> <ul style="list-style-type: none"> • State 60 miles or 18 gallons. • Restate the information provided in the item. • Be blank or give irrelevant information.