Ohio Achievement Test
Grade 3 Mathematics

May 2008

Answer Key
and
Scoring Guidelines

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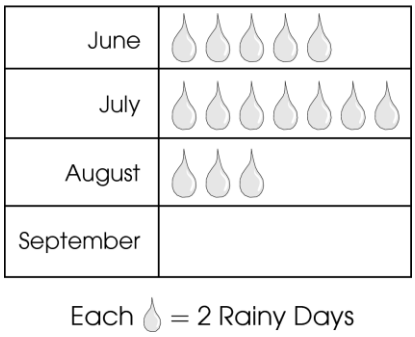
Item No.	Type	Content Standard	Content Standard Benchmark	Key
1	Multiple Choice	Data Analysis and Probability	C	Not for Public Release
2	Multiple Choice	Geometry and Spatial Sense	H	A
3	Multiple Choice	Patterns, Functions, and Algebra	E	Not for Public Release
4	Multiple Choice	Number, Number Sense and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

Limited = 0-21; Basic = 22-29; Proficient = 30-40; Accelerated = 41-45; Advanced = 46-52
Multiple Choice = 1 point; Short Answer = 2 points; Extended Response = 4 points

5. This pictograph shows the number of rainy days in June, July and August.

Rainy Days



It rained four days in September. Draw the number of raindrops to complete the pictograph for September.

Scoring Guidelines

Points	Student Response
2 point	The focus of this task is completing the pictograph for September using a given icon: each = 2 rainy days. The response provides a completed pictograph for September with 2 raindrops.
1 point	The response shows partial evidence of completing the pictograph for September using a given icon: each = 2 rainy days; however, the solution may be incomplete or slightly flawed. The response may: • Provide a completed graph with 4 raindrops or marks for September.
0 point	The response provides inadequate evidence of completing the pictograph for September using a given icon: each = 2 rainy days. The response provides major flaws in explanations or irrelevant information. The response may: • Provide the incorrect amount of raindrops or none at all. • Restate the information provided in the item. • Be blank or give irrelevant information.

10. A plant is 12 inches tall today. The plant grows three inches more each week.

Complete the table below showing the plant's height over the next three weeks.

Week	Height
Today	12 inches
In one week	
In two weeks	
In three weeks	

If this growth pattern continues, how many inches tall will the

plant be in five weeks? _____

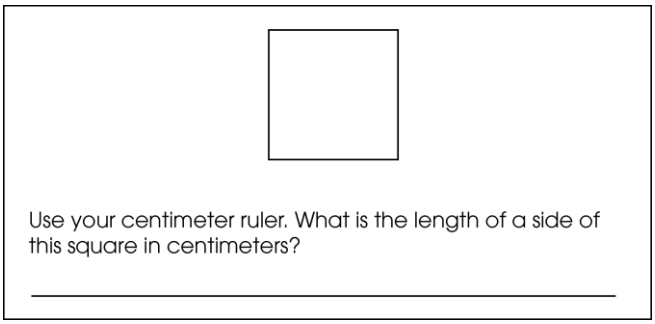
If this growth pattern continues, in how many weeks will the plant be 36 inches tall? _____

Scoring Guidelines

Points	Student Response
4 point	The focus of this task is extending a pattern that represents a mathematical relationship and describes the rule in words. The response provides an accurate table, the height of the plant in five weeks with adequate supporting work and the number of weeks when the plant will be 36 inches tall with adequate supporting work. The response shows: Week / Height Today / 12 inches In one week / **15 inches** In two weeks / **18 inches** In three weeks / **21 inches** The plant will be 27 inches tall because 21 + 3 = 24 and 24 + 3 = 27. I extended the table and found that after 8 weeks the plant will reach 36 inches.
3 point	The response provides evidence of extending a pattern that represents a mathematical relationship and describes the rule in words; however, the solution may contain a slight error, a flaw or a vague explanation. The response may: • Provide a correctly completed table and the correct number of weeks when the plant is 36 inches tall with adequate supporting work; however, fail to state the height of the plant in 5 weeks. • Provide a table with a computational error but carry that error through the item correctly.
2 point	The response provides partial evidence of extending a pattern that represents a mathematical relationship and describes the rule in words; however, the solution is incomplete and/or contains minor flaws. The response may: • Provide a correctly completed table and the height of the plant in 5 weeks with adequate supporting work. • Provide the correct height of the plant in 5 weeks with adequate supporting work and the

	number of weeks when the plant is 36 inches tall without adequate supporting work or a complete the table.
1 point	The response provides minimal evidence of extending a pattern that represents a mathematical relationship and describes the rule in words. The response contains major flaws and the explanation is incomplete or missing. The response may: • Provide only a correctly completed table. • Provide only the correct number of weeks when the plant is 36 inches tall with supporting work.
0 point	The response provides inadequate evidence of extending a pattern that represents a mathematical relationship and describes the rule in words. The response provides major flaws in explanations or irrelevant information. The response may: • Provide an incomplete table. • Restate the information provided in the item. • Be blank or give irrelevant information.

33. Pam is cutting squares of colored paper to glue together. She wants the squares to be the same size. She made a mistake and cut the square shown.



She wanted each side to be 3 inches long.

Scoring Guidelines

Points	Student Response
2 point	Sample Correct Response: • 3 cm The focus of this task is using appropriate measurement tools and techniques to measure the length of a given figure and to construct a figure of specified length. The response provides the correct length of the side in centimeters of the original square and an accurate drawing of a square with 3 inch long sides. **NOTE**: Side lengths should be within one-quarter of an inch.
1 point	The response provides partial evidence of using appropriate measurement tools and techniques to measure the length of a given figure and to construct a figure of specified length; however, the solution may be incomplete or slightly flawed. The response may: • State an incorrect measurement or incorrect units for the side of the original three-centimeter square but drew the square correctly in inches. • Show a drawing of a square with incorrect measurements; but, states the original squares' measurements correctly.
0 point	The response provides inadequate evidence of using appropriate measurement tools and techniques to measure the length of a given figure and to construct a figure of specified length. • State an incorrect measurement of the square and provide a drawing of a shape that is not a square. • Restate the information provided in the item. • Be blank or give irrelevant information.

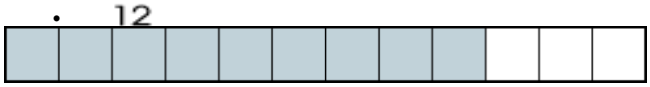
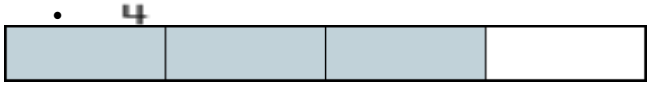
38. James invited 12 friends to go skating. Only 9 of his friends went.

What fraction of his friends went skating? _____

Divide and shade the rectangle to represent this fraction.

Explain how your drawing represents the fraction of James' friends who went skating.

Scoring Guidelines

Points	Student Response
2 point	The focus of this task is representing fractions by using numbers and models. The response provides the correct fraction with an appropriate model and a clear explanation that mentions the numerator and the denominator. • $\frac{9}{12}$  I shaded in 9 out of 12 squares because there are 12 students and 9 went skating. • $\frac{3}{4}$  I divided the bar into fourths and shaded in 3 of them. I divided the 12 friends into 4 equal groups and 3 of the groups went skating.
1 point	The response shows partial evidence of representing fractions by using numbers and models; however, the solution may be incomplete or slightly flawed. The response may: • State the correct fraction but fail to accurately shade in the bar. • State an incorrect fraction but shade the bar so it corresponds to the fraction, and adequately explain the model.
0 point	The response provides inadequate evidence of representing fractions by using numbers and models. The response provides an explanation with major flaws and errors of reasoning. The response may: • Only provide an answer that is not in the form of a fraction. • Restate the information provided in the item. • Be blank or give irrelevant information.