Ohio Achievement Assessment
Grade 5 Mathematics

Spring 2010

Answer Key
and
Scoring Guidelines

Grade 5 Mathematics
Answer Key
Spring 2010

Item No.	Type	Content Standard	Content Standard Benchmark	Key
1	Multiple choice	Geometry and spatial sense	A	Not for public release
2	Multiple choice	Measurement	B	C
3	Multiple choice	Number, number sense and operations	B	C
4	Multiple choice	Patterns, functions and algebra	F	B
5	Short answer	Data analysis and probability	J	Not for public release
6	Multiple choice	Number, number sense and operations	I	Not for public release
7	Multiple choice	Geometry and spatial sense	F	Not for public release
8	Multiple choice	Patterns, functions and algebra	E	C
9	Multiple choice	Data analysis and probability	K	Not for public release
10	Short answer	Number, number sense and operations	H	2 pt rubric
11	Multiple choice	Geometry and spatial sense	D	C
12	Multiple choice	Measurement	A	B
13	Multiple choice	Patterns, functions and algebra	B	Not for public release
14	Multiple choice	Number, number sense and operations	E	B
15	Extended response	Patterns, functions and algebra	L	Not for public release
16	Multiple choice	Geometry and spatial sense	I	Not for public release
17	Multiple choice	Data analysis and probability	E	Not for public release
18	Multiple choice	Number, number sense and operations	I	Not for public release
19	Multiple choice	Measurement	G	Not for public release
20	Extended response	Number, number sense and operations	I	Not for public release
21	Multiple choice	Data analysis and probability	A	Not for public release
22 - 27	**Field Test Items Not Used in Student Score**			
28	Multiple choice	Patterns, functions and algebra	A	D
29	Short answer	Measurement	E	2 pt rubric
30	Multiple choice	Data analysis and probability	H	A
31	Multiple choice	Number, number sense and operations	I	Not for public release
32	Multiple choice	Geometry and spatial sense	C	D
33	Short answer	Data analysis and probability	D	2 pt rubric
34	Multiple choice	Number, number sense and operations	E	C
35	Multiple choice	Patterns, functions and algebra	K	Not for public release
36	Multiple choice	Measurement	C	Not for public release
37	Multiple choice	Number, number sense and operations	E	Not for public release
38	Short answer	Geometry and spatial sense	G	2 pt rubric
39	Multiple choice	Measurement	E	C
40	Multiple choice	Patterns, functions and algebra	A	Not for public release
41	Multiple choice	Number, number sense and operations	D	B
42	Short answer	Measurement	B	Not for public release
43	Multiple choice	Geometry and spatial sense	B	A
44	Multiple choice	Number, number sense and operations	A	B
45	Multiple choice	Data analysis and probability	F	B
46	Multiple choice	Geometry and spatial sense	F	Not for public release

Limited = 0-16; Basic = 17-22; Proficient = 23-31; Accelerated = 32-36; Advanced = 37-52
Multiple Choice = 1 point; Short Answer = 2 points; Extended Response = 4 points

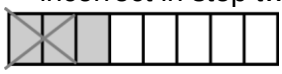
10. Eric subtracted $\frac{1}{8}$ from $\frac{4}{8}$. Then he subtracted $\frac{1}{4}$ from the difference. Eric's work is shown in Steps 1 and 2.

Step 1: $\frac{4}{8} - \frac{1}{8} = \frac{3}{8}$

Step 2: $\frac{3}{8} - \frac{1}{4} = \frac{2}{8}$

In your **Answer Document**, explain whether Eric's work in Step 1 and Step 2 is correct. Justify your explanation by using diagrams, words or numbers. (**2 points**)

Scoring Guidelines

Points	Student Response
2 point	**Exemplar Response:** • In Step 1 his work is right. The fractions have the same denominator, so you just subtract the numerators and the denominator stays the same. Step 2 is not correct because $\frac{1}{4}$ is the same as $\frac{2}{8}$. So $\frac{3}{8} - \frac{2}{8}$ is not $\frac{2}{8}$. • Eric is correct in step 1 since the denominators are the same. However he is incorrect in step two. Since $\frac{1}{4}$ is the same as $\frac{2}{8}$, take $\frac{2}{8}$ from $\frac{3}{8}$ and is $\frac{1}{8}$ left.  The focus of this task is analyzing and applying the steps in standard algorithms for computing with fractions. The response states that Step 1 is correct and states that Step 2 is incorrect with adequate justification.
1 point	The response shows partial evidence of analyzing and applying the steps in standard algorithms for computing with fractions; however, the solution may be incomplete or slightly flawed. **Sample Response**: • State that Step 1 is correct with an adequate justification (e.g., already has common denominator) and state that Step 2 is incorrect but does not provide adequate justification. • Provide the correct fraction for Step 2 but does not show justification of why the steps may be correct or incorrect.
0 point	The response provides inadequate evidence of analyzing and applying the steps in standard algorithms for computing with fractions. The response provides major flaws in explanations or irrelevant information. **Sample Response**: • State only that Eric is correct or incorrect. • Restate the information provided in the item. • Be blank or give irrelevant information.

29. Mrs. Smith planned parent-teacher conferences for her 21 students beginning next week. She scheduled conferences from 2:00 p.m. to 5:00 p.m. each day.

- The conferences begin on Monday.
- She scheduled 20 minutes for each conference.
- The first conference each day begins at 2:00 p.m.
- The last conference each day ends by 5:00 p.m.
- She scheduled 21 conferences.

In your **Answer Document**, use a table, words or numbers to determine the day and time Mrs. Smith's last conference is scheduled to end. Show or explain how you found the day and time for the last conference. (**2 points**)

Scoring Guidelines

<table>
<tr><th>Points</th><th>Student Response</th></tr>
<tr><td>2 point</td><td>

Exemplar Response:

- **Parent-Teacher Conference Times**

Monday	Tuesday	Wednesday
2:00	2:00	2:00
2:20	2:20	2:20
2:40	2:40	2:40
3:00	3:00	
3:20	3:20	
3:40	3:40	
4:00	4:00	
4:20	4:20	
4:40	4:40	

Conferences will end at 3 p.m. on Wednesday.

- Number of conferences each hour is 3.
  Number of conferences each day is 9.
  Total number of conference hours is 7 hours.
  The last conference ends at 3:00 on Wednesday.

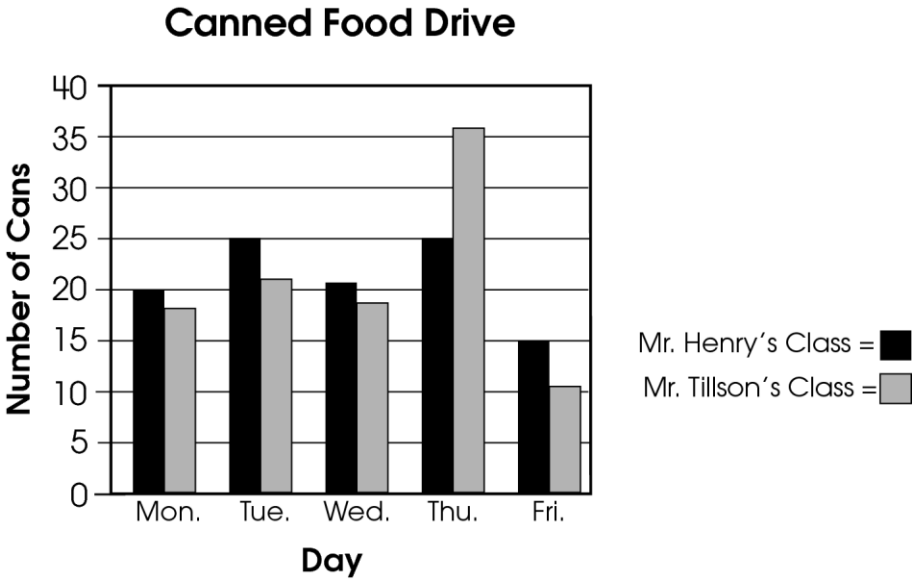
The focus of this task is solving a multi-step problem involving time. The response provides the correct day and an accurate time for which the conferences will end with adequate justification to support the answer.

NOTE: Having 8 conferences a day with one minute in between each conference is acceptable. The last conference would end on Wednesday at 3:44.

</td></tr>
</table>

1 point	The response shows partial evidence of solving a multi-step problem involving time; however, the solution may be incomplete or slightly flawed. **Sample Response**: • State an accurate day with support, but provide an inaccurate time that the last conference will end (2:40 p.m.). • Provide an accurate day and time the last conference will end; but, does not provide support. • Provide a correct strategy for finding the number of conferences that can fit in one day (e.g., 180 ÷ 20 = 9); but, does not indicate the day and time the last conference will end.
0 point	The response provides inadequate evidence of solving a multi-step problem involving time. The response provides major flaws in explanations or irrelevant information. **Sample Response**: • State only a random day that the conferences will end without support. • Restate the information provided in the item. • Be blank or give irrelevant information.

33. The graph shows the number of cans collected by two classes during a food drive.



Mr. Henry's class claimed they collected more cans every day than Mr. Tillson's class.

In your **Answer Document**, explain whether you agree or disagree with the claim. Support your answer, using specific information from the graph. (**2 points**)

Scoring Guidelines

Points	Student Response
2 point	**Exemplar Response:** • Mr. Henry's class is wrong. On the 4th day, Mr. Tillson's class collected more cans than Mr. Henry's did. Mr. Tillson's class had more than 35 cans on Thursday and Mr. Henry's class had 25 on Thursday. • I disagree with Mr. Henry's class. They didn't win on Thursday. The focus of this task is reading and interpreting a double bar graph and constructing an argument to support a claim. The response indicates agreement or disagreement with the claim **AND** provides supporting information from the graph.
1 point	The response provides partial evidence of reading and interpreting a double bar graph and constructing an argument to support a claim; however, the response may be incomplete or slightly flawed. **Sample Response**: • Provide an agreement with Mr. Henry's class and provide support based on an incorrect interpretation of the graph or misunderstanding of the question. • State, "I agree with Mr. Henry's class," and provide a total for each class (e.g., 106 cans for Mr. Henry's class and 103 cans for Mr. Tillson's class).

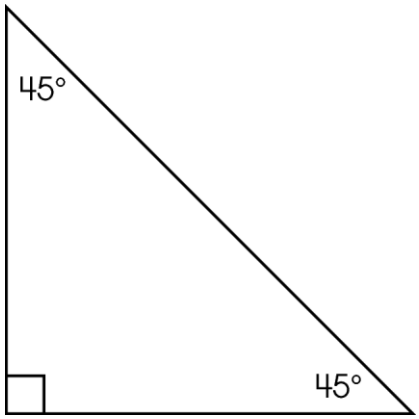
0 point	The response provides inadequate evidence of reading and interpreting a double bar graph and constructing an argument to support a claim. The response provides major flaws in reasoning or irrelevant information. **Sample Response**: • State that the total number of cans collected was 10. • Be blank or state unrelated statements. • Recopy information from the stem.

38. Stan is making a triangular desk to fit in a corner. One angle needs to measure 90°. He wants the other two angles to be congruent to each other.

In your **Answer Document**, draw Stan's desk and determine the measure of the other two angles.

Explain how you found the measures of the other two angles. (**2 points**)

Scoring Guidelines

Points	Student Response
2 point	**Exemplar Response:**  The other 2 angles each measure 45 degrees. The sum of the interior angles of a triangle equals 180°. 180° – 90° = 90° and 90° ÷ 2 = 45°. The focus of this task is drawing a physical model and finding the missing angle measures. The response provides an adequate drawing of the desk with accurate measures for the missing angles. The response also provides an adequate explanation of determining the measures of the other two angles.
1 point	The response shows partial evidence of drawing a physical model and finding the missing angle measures; however, the solution may be incomplete or slightly flawed. **Sample Response**: • Provide an adequate drawing of the desk with three angles labeled that add up to 180°, but the two missing angles are not congruent to each other. • Only provide accurate measures for the two missing angles.
0 point	The response provides inadequate evidence of drawing a physical model and finding the missing angle measures. The response provides major flaws in explanations or irrelevant information. **Sample Response**: • Provide three angle measures that do not add up to 180°. • Restate the information provided in the item. • Be blank or give irrelevant information.