

Education Quality and
Accountability Office



Assessment of Reading, Writing and Mathematics:
Primary Division

Released 2008 Assessment: Mathematics
Item Specific Rubrics and
Sample Student Responses with Annotations

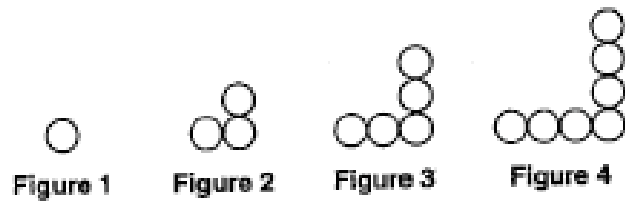
Scoring Guide for Mathematics Open-Response Question 7

Code	Descriptor
B	<ul style="list-style-type: none"> blank: nothing written or drawn in response to the question
I	<ul style="list-style-type: none"> <i>Illegible: cannot be read; completely crossed out/erased; not written in English</i> <i>Irrelevant content: does not attempt assigned question (e.g., comment on the task, drawings, “?”, “!”, “I don’t know”)</i> <i>Off topic: no relationship of written work to the question</i>
10	<p>Application of knowledge and skills to represent simple geometric patterns using a number sequence, a number line, or a bar graph shows limited effectiveness due to</p> <ul style="list-style-type: none"> misunderstanding of concepts incorrect selection or misuse of procedures
20	<p>Application of knowledge and skills to represent simple geometric patterns using a number sequence, a number line, or a bar graph shows some effectiveness due to</p> <ul style="list-style-type: none"> partial understanding of the concepts errors and/or omissions in the application of the procedures
30	<p>Application of knowledge and skills to represent simple geometric patterns using a number sequence, a number line, or a bar graph shows considerable effectiveness due to</p> <ul style="list-style-type: none"> an understanding of most of the concepts minor errors and/or omissions in the application of the procedures
40	<p>Application of knowledge and skills to represent simple geometric patterns using a number sequence, a number line, or a bar graph shows a high degree of effectiveness due to</p> <ul style="list-style-type: none"> a thorough understanding of the concepts an accurate application of the procedures (any minor errors and/or omissions do not detract from the demonstration of a thorough understanding)

Scoring Guide for Mathematics Open-Response
Question 7

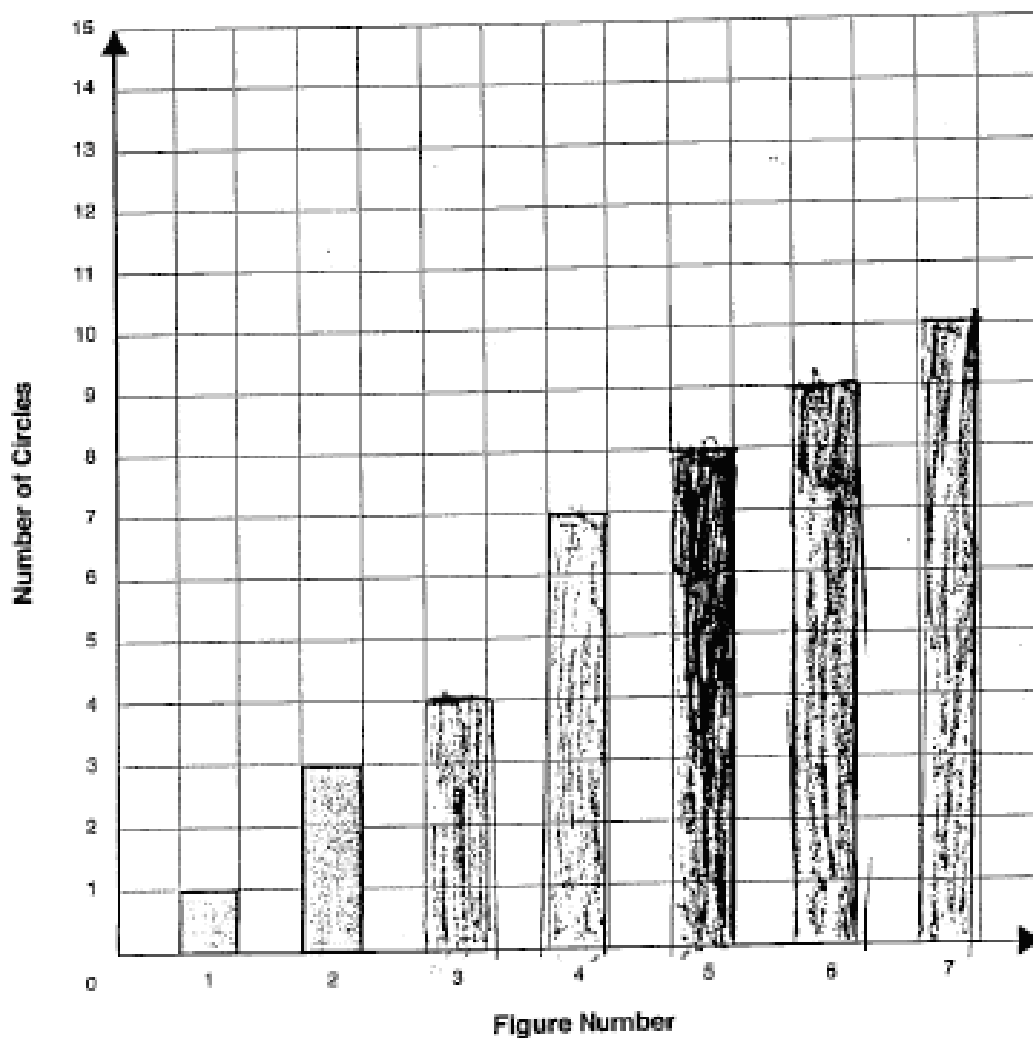
Code
10

The first four figures in a pattern are shown below.



Complete the bar graph below to represent the number of circles in each figure.

Circles in the Pattern



Scoring Guide for Mathematics Open-Response Question 7

(cont'd)

How many circles will there be in Figure 7?

Explain your thinking.
10 is in number 7 and 3, 4, 5, 6. 3 is up to four
4 is up to 7 5 is up to 8 6 is up to 9.

There will be 10 circles in Figure 7.

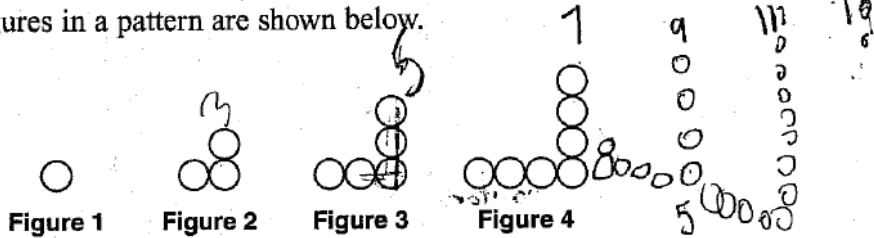
Annotation:

Student demonstrates a misunderstanding of concepts due to an incorrect selection of procedures; inaccurate bar graph and incorrect conclusion.

Scoring Guide for Mathematics Open-Response Question 7

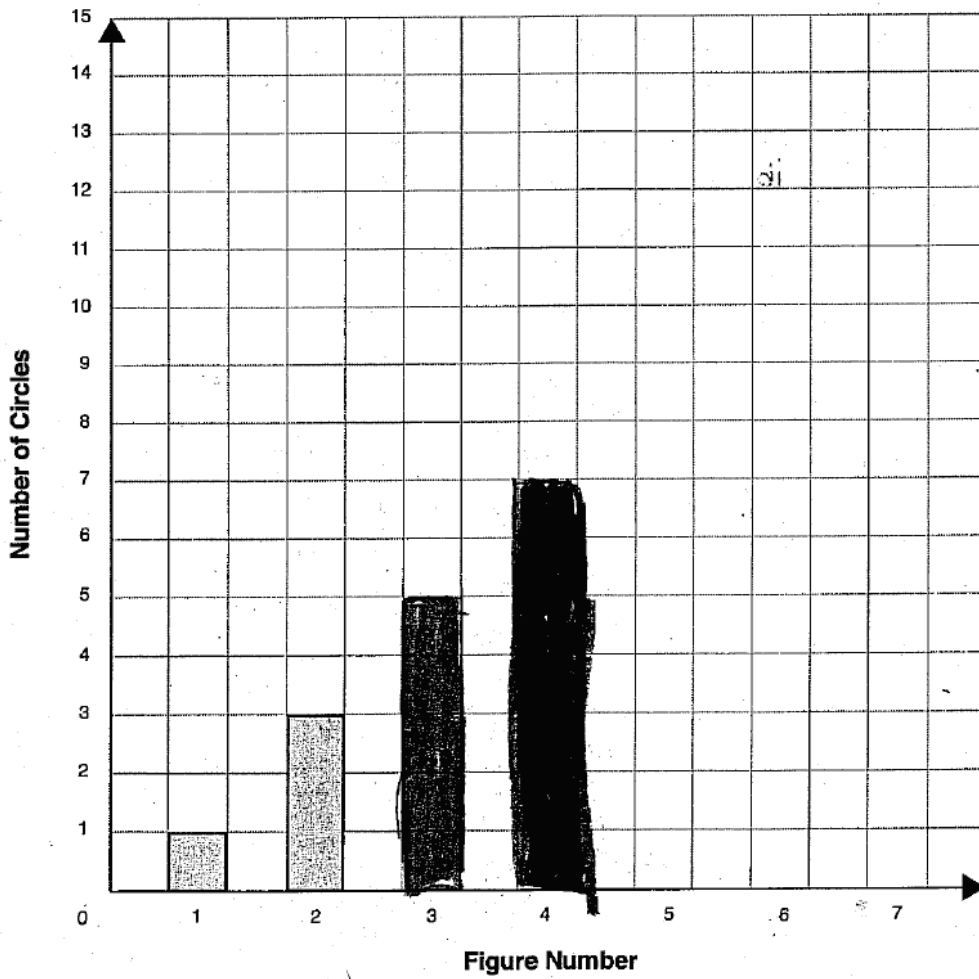
Code
20

The first four figures in a pattern are shown below.



Complete the bar graph below to represent the number of circles in each figure.

Circles in the Pattern



Scoring Guide for Mathematics Open-Response Question 7

(cont'd)

How many circles will there be in Figure 7?

Explain your thinking.

I used a calculator to find how many the total is when you count all these figures.

It has ~~15~~ circles.

$1 + 3 + 5 + 7 = 16$

There will be 65 circles in Figure 7.

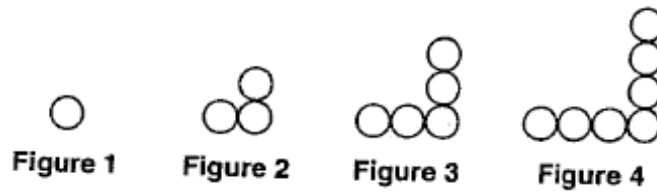
Annotation:

Student demonstrates a partial understanding of the concepts due to errors and omissions in the application of the procedures; completes the bar graph accurately to figure 4 but states an incorrect conclusion and explanation does not support the conclusion (15 is the answer for figure 8).

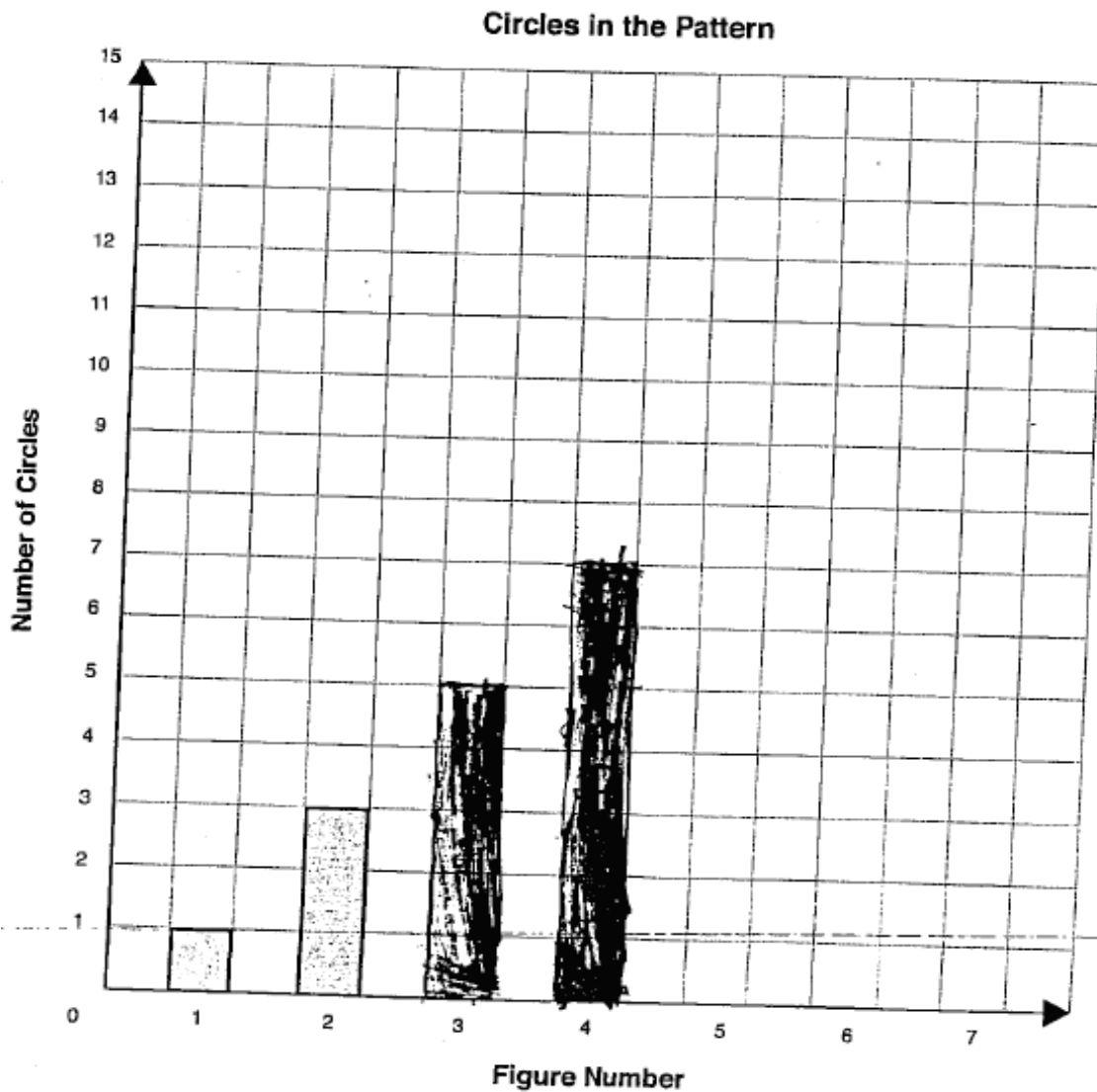
Scoring Guide for Mathematics Open-Response
Question 7

Code
30

The first four figures in a pattern are shown below.



Complete the bar graph below to represent the number of circles in each figure.



Scoring Guide for Mathematics Open-Response
Question 7

(cont'd)

How many circles will there be in Figure 7?

Explain your thinking.

9 circles because it
gets bigger 2 squares each
time.

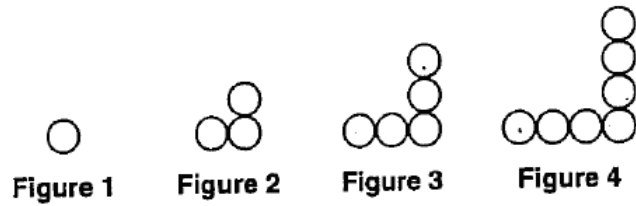
There will be 9 circles in Figure 7.

Annotation:

Student demonstrates an understanding of most of the concepts due to minor omissions in the application of the procedures; completes the bar graph accurately to Figure 4 and determines the pattern rule (*gets bigger 2 squares each time*) but does not provide a correct conclusion (answer of 9 is for figure 5).

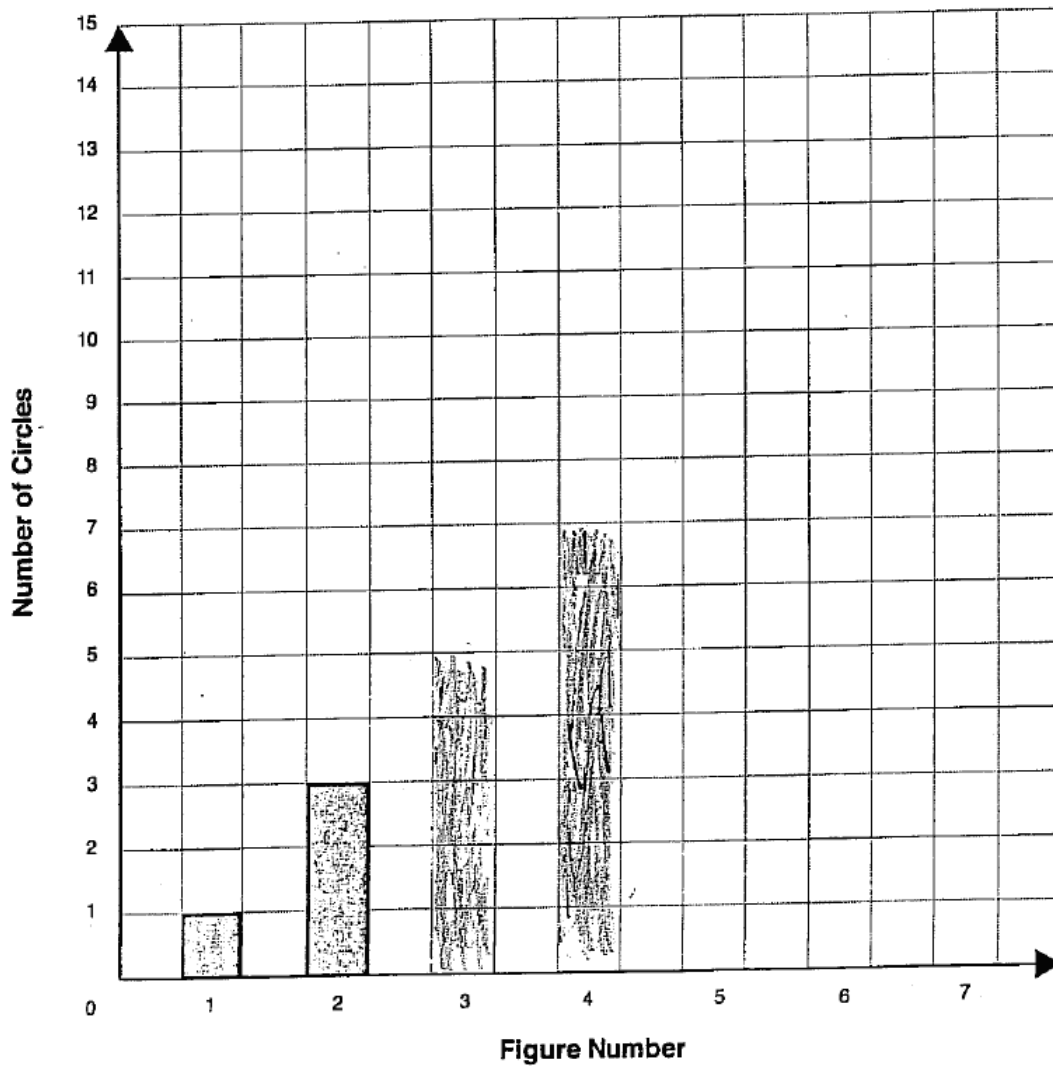
Scoring Guide for Mathematics Open-Response Question 7

Code
40



Complete the bar graph below to represent the number of circles in each figure.

Circles in the Pattern



Scoring Guide for Mathematics Open-Response
Question 7

(cont'd)

How many circles will there be in Figure 7?

Explain your thinking.

I got the answer by counting. There is a pattern. The pattern is counting by 2's. But you start from 1. So it goes to an odd number.

There will be 13 circles in Figure 7.

Annotation:

Student demonstrates a thorough understanding of the concepts due to an accurate application of the procedures; completes the bar graph accurately to Figure 4 and states a correct conclusion (13 circles). Explains that the pattern on the graph increases by 2's (*the pattern is counting by 2's*) (students were not required to complete the bar graph to Figure 7).

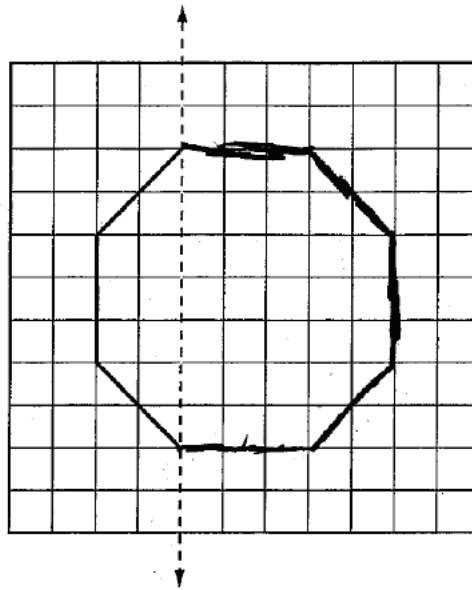
Scoring Guide for Mathematics Open-Response Question 8

Code	Descriptor
B	<ul style="list-style-type: none"> blank: nothing written or drawn in response to the question
I	<ul style="list-style-type: none"> <i>Illegible: cannot be read; completely crossed out/erased; not written in English</i> <i>Irrelevant content: does not attempt assigned question (e.g., comment on the task, drawings, “?”, “!”, “I don’t know”)</i> <i>Off topic: no relationship of written work to the question</i>
10	<p>Application of knowledge and skills to complete and describe designs and pictures of images that have a vertical, horizontal, or diagonal line of symmetry shows limited effectiveness due to</p> <ul style="list-style-type: none"> misunderstanding of concepts incorrect selection or misuse of procedures
20	<p>Application of knowledge and skills to complete and describe designs and pictures of images that have a vertical, horizontal, or diagonal line of symmetry shows some effectiveness due to</p> <ul style="list-style-type: none"> partial understanding of the concepts errors and/or omissions in the application of the procedures
30	<p>Application of knowledge and skills to complete and describe designs and pictures of images that have a vertical, horizontal, or diagonal line of symmetry shows considerable effectiveness due to</p> <ul style="list-style-type: none"> an understanding of most of the concepts minor errors and/or omissions in the application of the procedures
40	<p>Application of knowledge and skills to complete and describe designs and pictures of images that have a vertical, horizontal, or diagonal line of symmetry shows a high degree of effectiveness due to</p> <ul style="list-style-type: none"> a thorough understanding of the concepts an accurate application of the procedures (any minor errors and/or omissions do not detract from the demonstration of a thorough understanding)

Scoring Guide for Mathematics Open-Response
Question 8

Code
10

A line of symmetry and part of a shape are drawn.



Complete the missing side of the shape.

Does this shape have other lines of symmetry?

Explain your answer. *yes* because the
sides are all the same size.
There are four line of symmetry
on the hexagon.

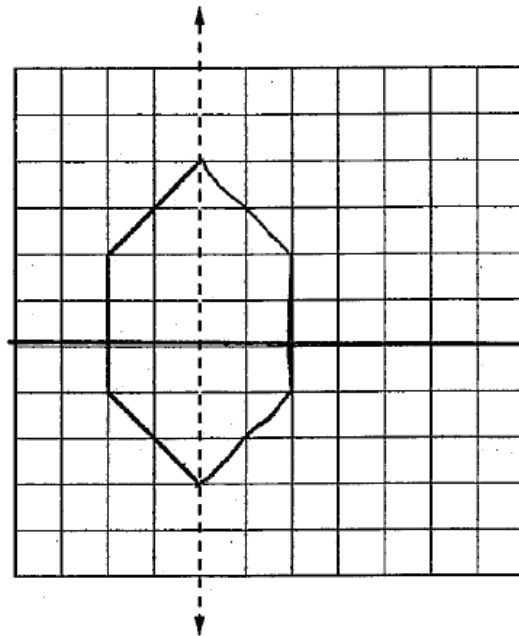
Annotation:

Student demonstrates a misunderstanding of concepts; inaccurate drawing and provides incorrect response to explain whether or not the shape has other lines of symmetry.

Scoring Guide for Mathematics Open-Response
Question 8

Code
20

A line of symmetry and part of a shape are drawn.



Complete the missing side of the shape.

Does this shape have other lines of symmetry?

Explain your answer. Yes it has 1
more line of symmetry
from side to side.

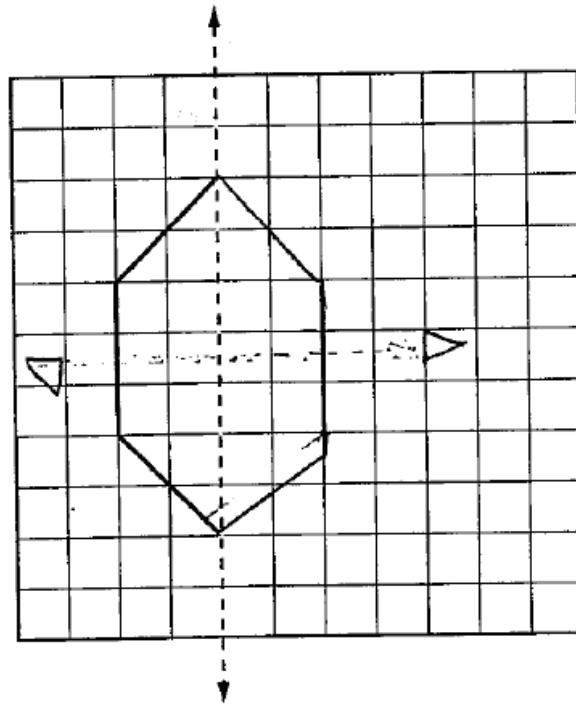
Annotation:

Student demonstrates a partial understanding of the concepts; completes the drawing accurately but draws the line of symmetry incorrectly and does not provide a complete explanation.

Scoring Guide for Mathematics Open-Response
Question 8

Code
30

A line of symmetry and part of a shape are drawn.



Complete the missing side of the shape.

Does this shape have other lines of symmetry?

Explain your answer.

Yes there is one more going horizontally

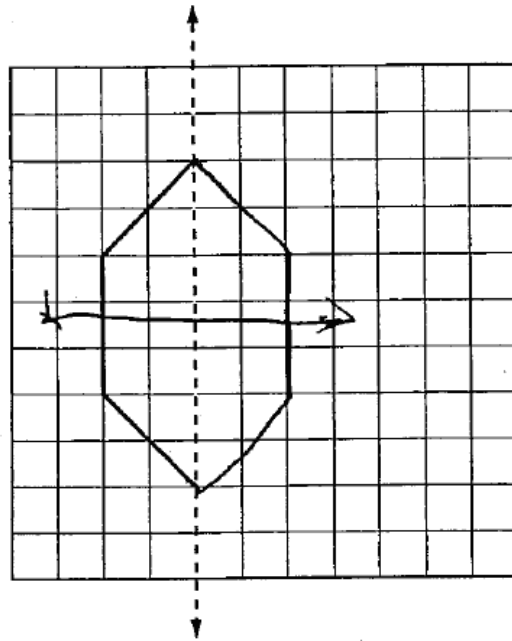
Annotation:

Student demonstrates an understanding of most of the concepts due to minor omissions in the application of the procedures; completes the drawing accurately and indicates where the second line of symmetry should be located but does not explain why it is a line of symmetry.

Scoring Guide for Mathematics Open-Response
Question 8

Code
40

A line of symmetry and part of a shape are drawn.



Complete the missing side of the shape.

Does this shape have other lines of symmetry?

Explain your answer.

yes because if you fold it
in half both sides
will be the same.

Annotation:

Student demonstrates a thorough understanding of the concepts due to an accurate application of the procedures; completes the drawing accurately and identifies the second line of symmetry on the diagram. Explains that when folded *both sides will be the same*.

Scoring Guide for Mathematics Open-Response Question 9

Code	Descriptor
B	<ul style="list-style-type: none"> blank: nothing written or drawn in response to the question
I	<ul style="list-style-type: none"> <i>Illegible: cannot be read; completely crossed out/erased; not written in English</i> <i>Irrelevant content: does not attempt assigned question (e.g., comment on the task, drawings, “?”, “!”, “I don’t know”)</i> <i>Off topic: no relationship of written work to the question</i>
10	<p>Problem-solving process to add and subtract money amounts, using a variety of tools (e.g., currency manipulatives, drawings), to make simulated purchases and change for amounts up to \$10 shows limited effectiveness due to</p> <ul style="list-style-type: none"> minimal evidence of a solution process limited identification of important elements of the problem too much emphasis on unimportant elements of the problem no conclusions presented conclusion presented without supporting evidence
20	<p>Problem-solving process to add and subtract money amounts, using a variety of tools (e.g., currency manipulatives, drawings), to make simulated purchases and change for amounts up to \$10 shows some effectiveness due to</p> <ul style="list-style-type: none"> an incomplete solution process identification of some of the important elements of the problem some understanding of the relationships between important elements of the problem simple conclusions with little supporting evidence
30	<p>Problem-solving process to add and subtract money amounts, using a variety of tools (e.g., currency manipulatives, drawings), to make simulated purchases and change for amounts up to \$10 shows considerable effectiveness due to</p> <ul style="list-style-type: none"> a solution process that is nearly complete identification of most of the important elements of the problem a considerable understanding of the relationships between important elements of the problem appropriate conclusions with supporting evidence
40	<p>Problem-solving process to add and subtract money amounts, using a variety of tools (e.g., currency manipulatives, drawings), to make simulated purchases and change for amounts up to \$10 shows a high degree of effectiveness due to</p> <ul style="list-style-type: none"> a complete solution process identification of all important elements of the problem a thorough understanding of the relationships between all of the important elements of the problem appropriate conclusions with thorough and insightful supporting evidence

Scoring Guide for Mathematics Open-Response
Question 9

Code
10

He does not have enough money to buy the game. What other coins does Steven need to reach \$9.00?

Justify your answer. he need's 5¢ hfc
make coin's thes are, the
name of of he coin's. he
need's to by the game
2 dime's & 1 nickle

10¢ 10¢ 5¢

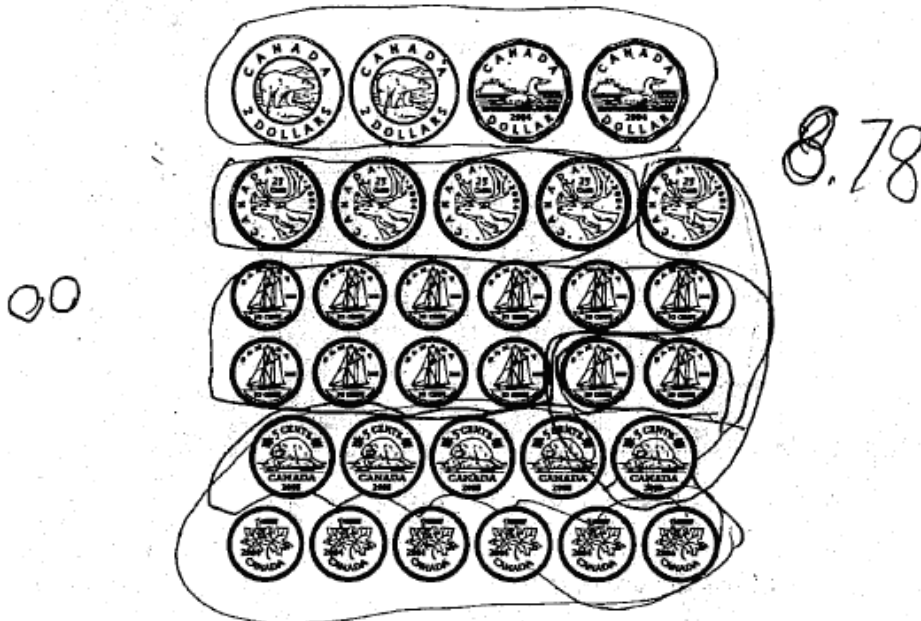
Annotation:

Student provides a conclusion without supporting evidence; lists 3 coins (2 dimes and 1 nickel) which would not reach \$9.00 and does not justify why these are the coins that are needed to reach \$9.00.

Scoring Guide for Mathematics Open-Response Question 9

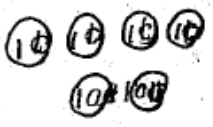
Code
20

Steven wants to buy a game that costs \$9.00. These are the coins he has saved.



He does not have enough money to buy the game. What other coins does Steven need to reach \$9.00?

Justify your answer.

 Steven needs 2 dimes and 4 pennys.

Annotation:

Student demonstrates a solution process that is incomplete; provides an incorrect total for the coins presented (8.78) and describes coins that do not reach a total of \$9.00 for \$8.78.

Scoring Guide for Mathematics Open-Response
Question 9

Code
30

He does not have enough money to buy the game. What other coins does Steven need to reach \$9.00?

Justify your answer.

No, Steven does not have enough money to buy the game he only has \$8.76 in total, so... Steven can not buy the game. I added $2 + 2 + 4 + 1 + 1 = 6 + 25 \times 4 = 7 + 25 + 10 \times 7 = 5 = 8.76$. Steven need 24¢ more to buy the game

Annotation:

Student provides a solution process that is nearly complete; states an accurate total for the coins presented (\$8.76) and a correct amount needed to reach \$9.00 (24¢ more) but does not describe the coins.

Scoring Guide for Mathematics Open-Response
Question 9

Code
40

He does not have enough money to buy the game. What other coins does Steven need to reach \$9.00?

Justify your answer.

He needs 2, 10¢ coins and 4 pennies.

He need 2 dimes and 4 pennies because

Steven has \$8.76 if he adds 2 dimes he has
\$8.96 + 4 pennies = \$9.00

Annotation:

Student provides a complete solution process; states an accurate total for the coins presented (\$8.76) and describes the coins needed to reach \$9.00 (2 dimes and 4 pennies).

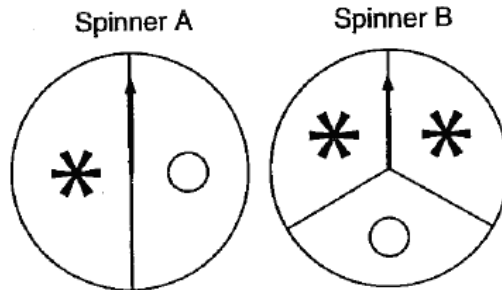
Scoring Guide for Mathematics Open-Response Question 10

Code	Descriptor
B	<ul style="list-style-type: none"> blank: nothing written or drawn in response to the question
I	<ul style="list-style-type: none"> <i>Illegible: cannot be read; completely crossed out/erased; not written in English</i> <i>Irrelevant content: does not attempt assigned question (e.g., comment on the task, drawings, “?”, “!”, “I don’t know”)</i> <i>Off topic: no relationship of written work to the question</i>
10	<p>Problem-solving process to compare the results of a simple probability experiment to determine the spinner used to generate the results, using mathematical language shows limited effectiveness due to</p> <ul style="list-style-type: none"> minimal evidence of a solution process limited identification of important elements of the problem too much emphasis on unimportant elements of the problem no conclusions presented conclusion presented without supporting evidence
20	<p>Problem-solving process to compare the results of a simple probability experiment to determine the spinner used to generate the results, using mathematical language shows some effectiveness due to</p> <ul style="list-style-type: none"> an incomplete solution process identification of some of the important elements of the problem some understanding of the relationships between important elements of the problem simple conclusions with little supporting evidence
30	<p>Problem-solving process to compare the results of a simple probability experiment to determine the spinner used to generate the results, using mathematical language shows considerable effectiveness due to</p> <ul style="list-style-type: none"> a solution process that is nearly complete identification of most of the important elements of the problem a considerable understanding of the relationships between important elements of the problem appropriate conclusions with supporting evidence
40	<p>Problem-solving process to compare the results of a simple probability experiment to determine the spinner used to generate the results, using mathematical language shows a high degree of effectiveness due to</p> <ul style="list-style-type: none"> a complete solution process identification of all important elements of the problem a thorough understanding of the relationships between all of the important elements of the problem appropriate conclusions with thorough and insightful supporting evidence

Scoring Guide for Mathematics Open-Response
Question 10

Code
10

Which of the following spinners did Mohit **most likely** use?



Justify your answer.

He might have used Spinner B.

Mohit **most likely** used Spinner B.

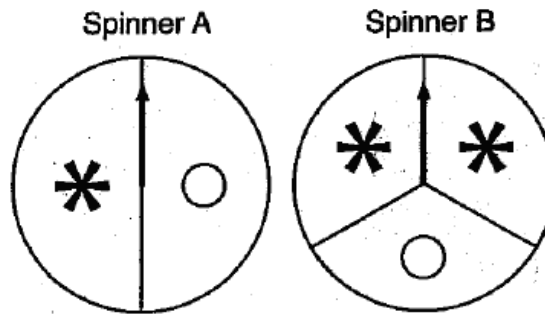
Annotation:

Student demonstrates minimal evidence of a solution process; conclusion presented without supporting evidence; chooses correct spinner, no mention of values in chart or space on the spinner.

Scoring Guide for Mathematics Open-Response
Question 10

Code
20

Which of the following spinners did Mohit **most likely** use?



Justify your answer.

Because there is only 1 O
and 2 *.

Mohit **most likely** used Spinner B.

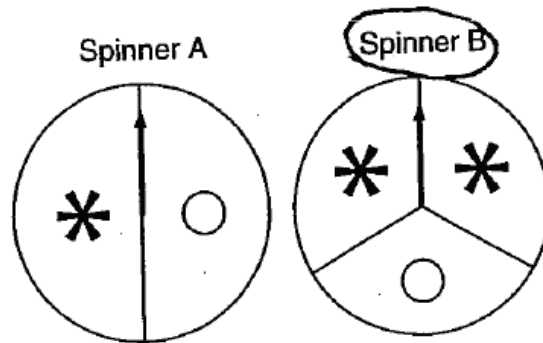
Annotation:

Student demonstrates some understanding of the relationships between important elements of the problem; chooses Spinner B; mentions only the spinner, (*there is only 1 O and 2 **) and no connection to the numbers in the chart.

Scoring Guide for Mathematics Open-Response
Question 10

Code
30

Which of the following spinners did Mohit most likely use?



Justify your answer. Mohit most likely use
Spinner B because on the chart
snow flakes has a greater amount
spun than circles. On spinner
B snow flakes has a better chance
of getting spun than circles.

Mohit most likely used Spinner B.

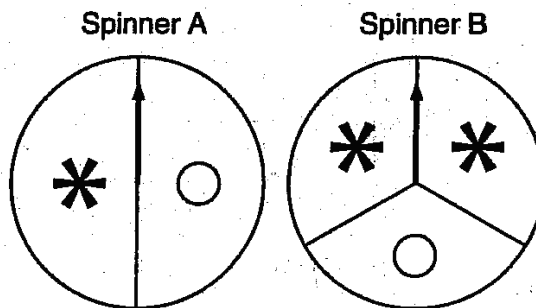
Annotation:

Student demonstrates a nearly complete process; begins to connect the numbers on the chart to the spinner; does not mention the size of the spaces for * on spinner B.

Scoring Guide for Mathematics Open-Response
Question 10

Code
40

Which of the following spinners did Mohit **most likely** use?



Justify your answer. I think Mohit most likely used spinner B for his/her spins because spinner B has a bigger section for * than O and on the results it shows that the arrow landed on the * more than the O.

Mohit most likely used Spinner B.

Annotation:

Student provides an appropriate conclusion with thorough and insightful supporting evidence; relates the numbers in the chart to the size of the spaces on the spinner (Spinner B has a bigger section for stars than O).

Scoring Guide for Mathematics Open-Response Question 27

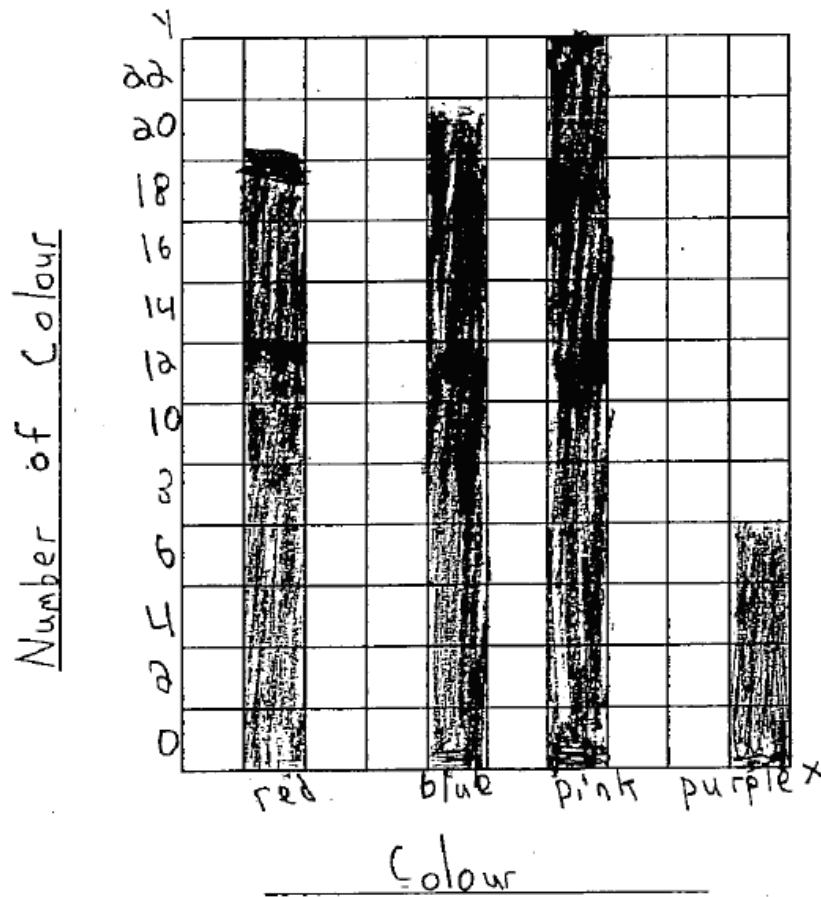
Code	Descriptor
B	<ul style="list-style-type: none"> blank: nothing written or drawn in response to the question
I	<ul style="list-style-type: none"> <i>Illegible: cannot be read; completely crossed out/erased; not written in English</i> <i>Irrelevant content: does not attempt assigned question (e.g., comment on the task, drawings, “?”, “!”, “I don’t know”)</i> <i>Off topic: no relationship of written work to the question</i>
10	<p>Application of knowledge and skills to collect and organize categorical or discrete primary data and display the data in charts, tables, and graph, with appropriate titles and labels and with labels ordered appropriately along horizontal axes, as needed, using many-to-one correspondence shows limited effectiveness due to</p> <ul style="list-style-type: none"> misunderstanding of concepts incorrect selection or misuse of procedures
20	<p>Application of knowledge and skills to collect and organize categorical or discrete primary data and display the data in charts, tables, and graph, with appropriate titles and labels and with labels ordered appropriately along horizontal axes, as needed, using many-to-one correspondence shows some effectiveness due to</p> <ul style="list-style-type: none"> partial understanding of the concepts errors and/or omissions in the application of the procedures
30	<p>Application of knowledge and skills to collect and organize categorical or discrete primary data and display the data in charts, tables, and graph, with appropriate titles and labels and with labels ordered appropriately along horizontal axes, as needed, using many-to-one correspondence shows considerable effectiveness due to</p> <ul style="list-style-type: none"> an understanding of most of the concepts minor errors and/or omissions in the application of the procedures
40	<p>Application of knowledge and skills to collect and organize categorical or discrete primary data and display the data in charts, tables, and graph, with appropriate titles and labels and with labels ordered appropriately along horizontal axes, as needed, using many-to-one correspondence shows a high degree of effectiveness due to</p> <ul style="list-style-type: none"> a thorough understanding of the concepts an accurate application of the procedures (any minor errors and/or omissions do not detract from the demonstration of a thorough understanding)

Scoring Guide for Mathematics Open-Response
Question 27

Code
10

Create a bar graph to display the data on the grid below. Remember to include all titles and labels.

Favorite Colours



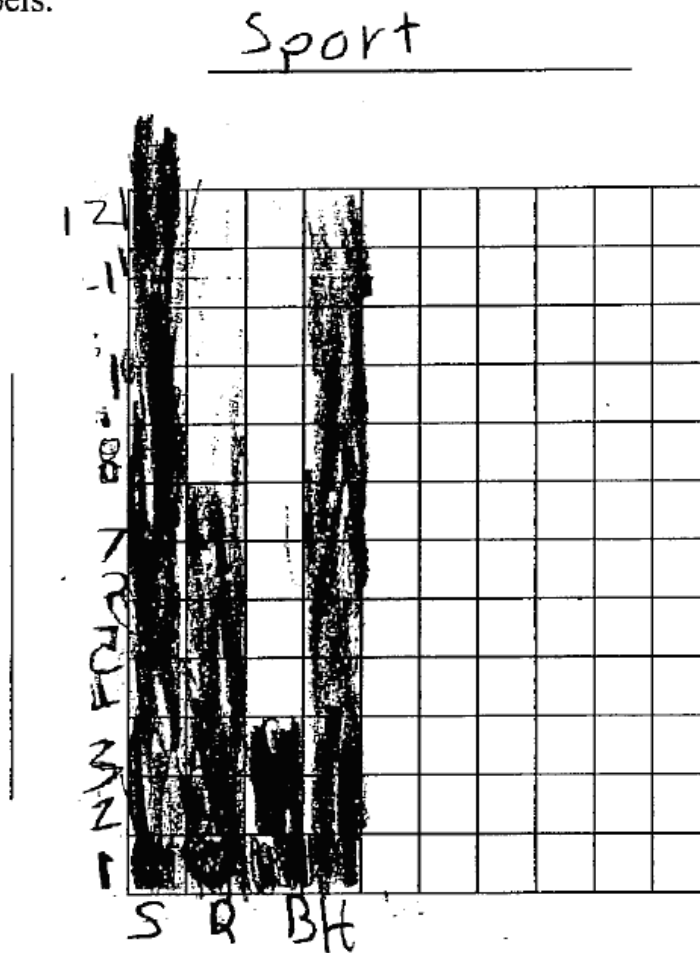
Annotation:

Student demonstrates a misunderstanding of the concepts; creates a graph that is unrelated to the data given.

Scoring Guide for Mathematics Open-Response
Question 27

Code
20

Create a bar graph to display the data on the grid below. Remember to include all titles and labels.



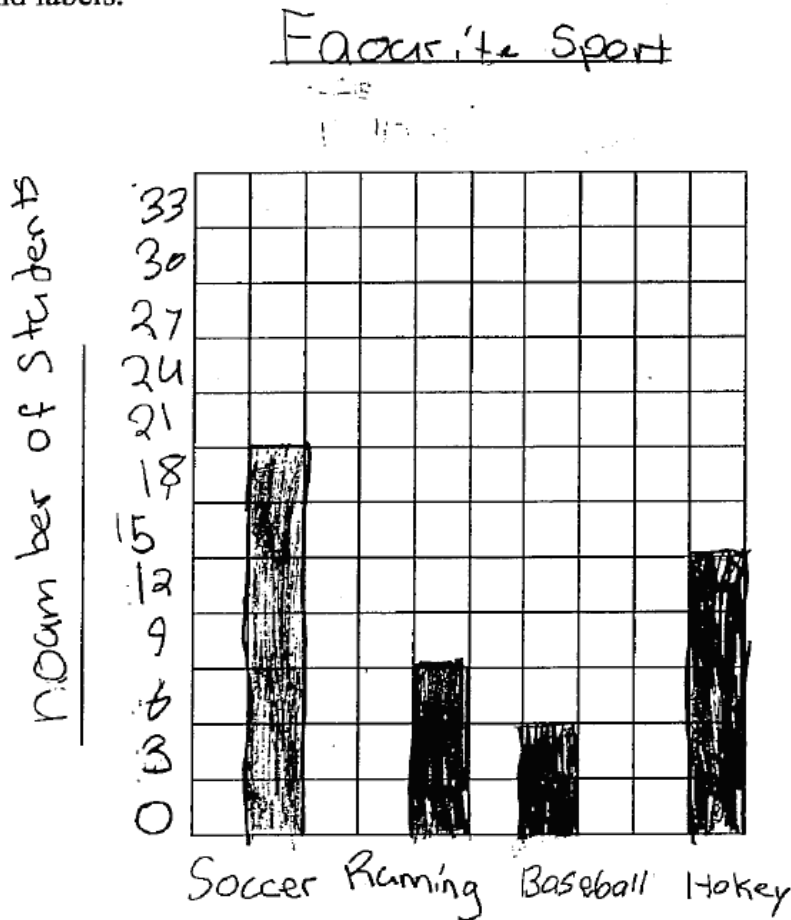
Annotation:

Student demonstrates a partial understanding of the concepts with errors and omissions in the application of the procedures; counts boxes instead of using grid lines as endpoints of a scale, does not accommodate the range of data causing bar for soccer to be too short, bar for running is too long, but bars for baseball and hockey are accurate.

Scoring Guide for Mathematics Open-Response
Question 27

Code
30

Create a bar graph to display the data on the grid below. Remember to include all titles and labels.



Annotation:

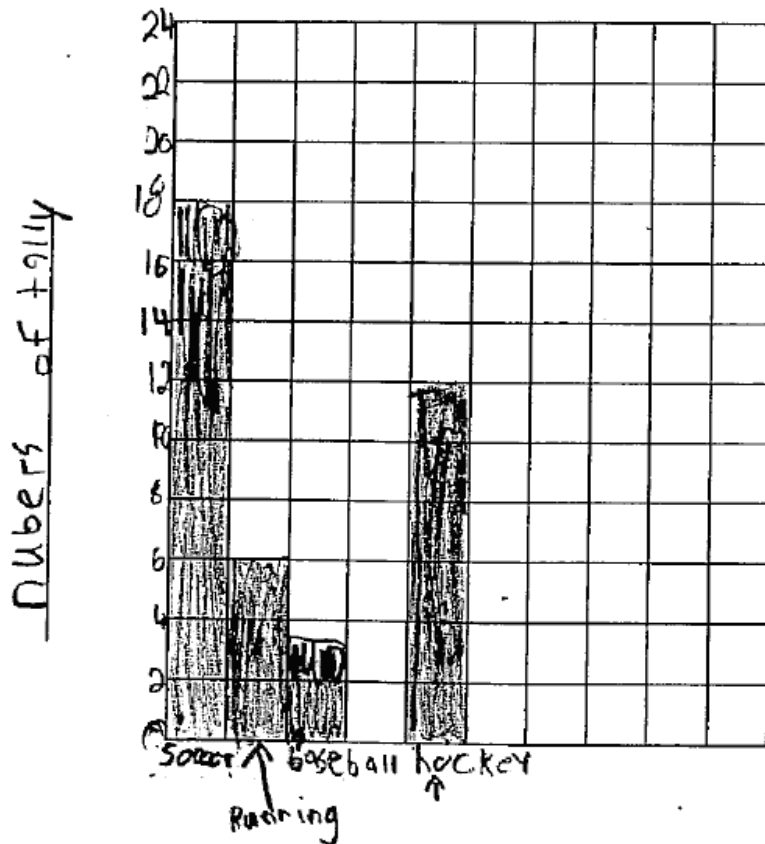
Student demonstrates an understanding of most of the concepts; each box represents 3 and counts boxes instead of using grid lines as endpoints of a scale that starts at 0, causing each bar to be one grid line too high.

Scoring Guide for Mathematics Open-Response
Question 27

Code
40

Create a bar graph to display the data on the grid below. Remember to include all titles and labels.

favourite sport



Annotation:

Student demonstrates a thorough understanding of the concepts; provides a scale that starts at 0 and goes up by 2 and accommodates the range of the data. Data is represented accurately in the heights of the bars. Minor omission of the title for the x axis does not detract from a thorough understanding of the concepts.

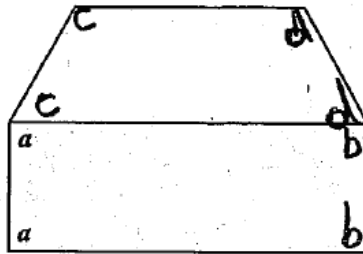
Scoring Guide for Mathematics Open-Response Question 28

Code	Descriptor
B	<ul style="list-style-type: none"> blank: nothing written or drawn in response to the question
I	<ul style="list-style-type: none"> <i>Illegible: cannot be read; completely crossed out/erased; not written in English</i> <i>Irrelevant content: does not attempt assigned question (e.g., comment on the task, drawings, “?”, “!”, “I don’t know”)</i> <i>Off topic: no relationship of written work to the question</i>
10	<p>Application of knowledge and skills to compare various angles using pictorial representations, and describe angles as bigger than, smaller than, or about the same as a right angle shows limited effectiveness due to</p> <ul style="list-style-type: none"> misunderstanding of concepts incorrect selection or misuse of procedures
20	<p>Application of knowledge and skills to compare various angles using pictorial representations, and describe angles as bigger than, smaller than, or about the same as a right angle shows some effectiveness due to</p> <ul style="list-style-type: none"> partial understanding of the concepts errors and/or omissions in the application of the procedures
30	<p>Application of knowledge and skills to compare various angles using pictorial representations, and describe angles as bigger than, smaller than, or about the same as a right angle shows considerable effectiveness due to</p> <ul style="list-style-type: none"> an understanding of most of the concepts minor errors and/or omissions in the application of the procedures
40	<p>Application of knowledge and skills to compare various angles using pictorial representations, and describe angles as bigger than, smaller than, or about the same as a right angle shows a high degree of effectiveness due to</p> <ul style="list-style-type: none"> a thorough understanding of the concepts an accurate application of the procedures (any minor errors and/or omissions do not detract from the demonstration of a thorough understanding)

Scoring Guide for Mathematics Open-Response
Question 28

Code
10

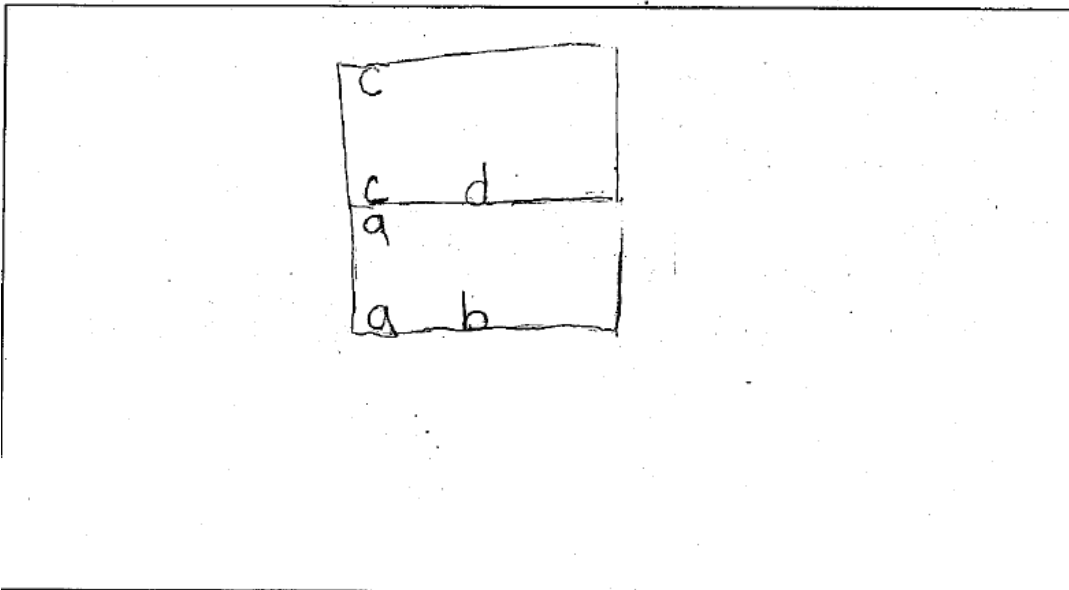
Simon draws a house.



Simon's house has many sets of angles that are equal. Each angle in one set is marked with an a .

Find other sets of equal angles. Mark each set with a different letter.

Compare each set to a right angle.



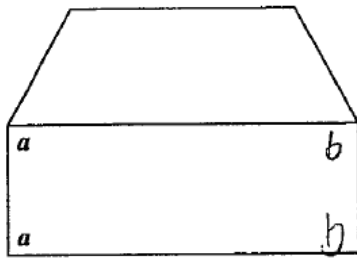
Annotation:

Student demonstrates a misunderstanding of concepts; accurately labels 2 angles with 'b' but labels all remaining angles inaccurately and provides no comparison of angles to a right angle.

Scoring Guide for Mathematics Open-Response
Question 28

Code
20

Simon draws a house.



Simon's house has many sets of angles that are equal. Each angle in one set is marked with an a .

Find other sets of equal angles. Mark each set with a different letter.

Compare each set to a right angle.

$a \hat{=} a \hat{=} b \hat{=} b$ are right angles.

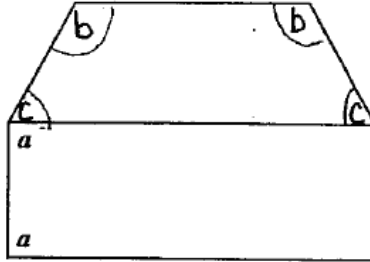
Annotation:

Student demonstrates a partial understanding of concepts with omissions in the application of the procedures; accurately identifies two sets of right angles, but does not address the other two sets of equal angles.

Scoring Guide for Mathematics Open-Response
Question 28

Code
30

Simon draws a house.



Simon's house has many sets of angles that are equal. Each angle in one set is marked with an a .

Find other sets of equal angles. Mark each set with a different letter.

Compare each set to a right angle.

Angle c is narrower than a right angle,
and angle b is wider than a right angle.

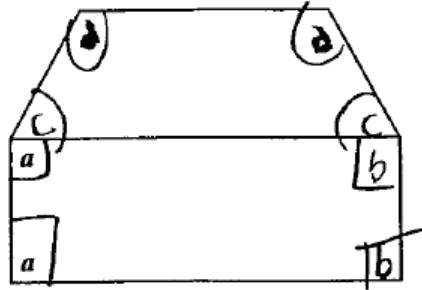
Annotation:

Student demonstrates a considerable understanding of the concepts due to minor omissions in the application of the procedures; accurately identifies 2 other sets of equal angles and correctly compares them to a right angle. Omits addressing the other set of right angles.

Scoring Guide for Mathematics Open-Response
Question 28

Code
40

-Simon draws a house.



Simon's house has many sets of angles that are equal. Each angle in one set is marked with an a .

Find other sets of equal angles. Mark each set with a different letter.

Compare each set to a right angle.

(A) is a right angle
(B) is a right angle
(C) is less than a right angle
(D) is greater than a right angle

Annotation:

Student demonstrates a thorough understanding of the concepts; accurately identifies all 3 sets of equal angles and correctly compares each set to a right angle (does not mark angles a and b with the same letter.).

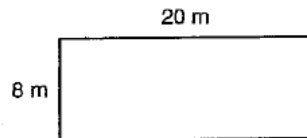
Scoring Guide for Mathematics Open-Response Question 29

Code	Descriptor
B	<ul style="list-style-type: none"> blank: nothing written or drawn in response to the question
I	<ul style="list-style-type: none"> <i>Illegible: cannot be read; completely crossed out/erased; not written in English</i> <i>Irrelevant content: does not attempt assigned question (e.g., comment on the task, drawings, “?”, “!”, “I don’t know”)</i> <i>Off topic: no relationship of written work to the question</i>
10	<p>Problem-solving process to estimate, measure, and record the perimeter of two-dimensional shapes, through investigation using standard units shows limited effectiveness due to</p> <ul style="list-style-type: none"> minimal evidence of a solution process limited identification of important elements of the problem too much emphasis on unimportant elements of the problem no conclusions presented conclusion presented without supporting evidence
20	<p>Problem-solving process to estimate, measure, and record the perimeter of two-dimensional shapes, through investigation using standard units shows some effectiveness due to</p> <ul style="list-style-type: none"> an incomplete solution process identification of some of the important elements of the problem some understanding of the relationships between important elements of the problem simple conclusions with little supporting evidence
30	<p>Problem-solving process to estimate, measure, and record the perimeter of two-dimensional shapes, through investigation using standard units shows considerable effectiveness due to</p> <ul style="list-style-type: none"> a solution process that is nearly complete identification of most of the important elements of the problem a considerable understanding of the relationships between important elements of the problem appropriate conclusions with supporting evidence
40	<p>Problem-solving process to estimate, measure, and record the perimeter of two-dimensional shapes, through investigation using standard units shows a high degree of effectiveness due to</p> <ul style="list-style-type: none"> a complete solution process identification of all important elements of the problem a thorough understanding of the relationships between all of the important elements of the problem appropriate conclusions with thorough and insightful supporting evidence

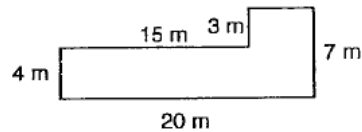
Scoring Guide for Mathematics Open-Response
Question 29

Code
10

Playground A



Playground B



Which playground has the larger perimeter?

Show your work:

I used a calculator
and add up 8 m and 20 m.

Playground A has the larger perimeter.

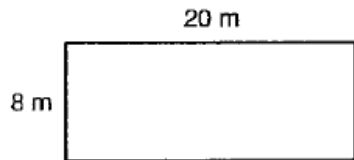
Annotation:

Student places too much emphasis on unimportant elements of the problem; adds 20 and 8 and selects Playground A, does not consider the other 2 sides of the rectangle or Playground B.

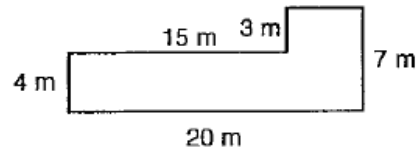
Scoring Guide for Mathematics Open-Response
Question 29

Code
20

Playground A



Playground B



Which playground has the larger perimeter?

Show your work.

Playground b has the most perimeter because
playground a has only 28 and playground b
has 49.

Playground B has the larger perimeter.

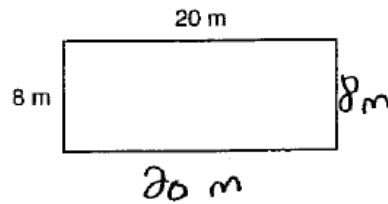
Annotation:

Student identifies some of the important elements of the problem; answers indicate that student adds dimensions provided to calculate the perimeter for both playgrounds, but, does not determine missing dimensions and include them in perimeter.

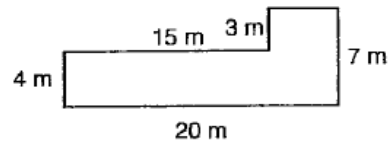
Scoring Guide for Mathematics Open-Response Question 29

**Code
30**

Playground A



Playground B



Which playground has the larger perimeter?

Show your work.

P.g. A.

$$\begin{array}{r}
 20 \\
 + 20 \\
 + 8 \\
 + 8 \\
 \hline
 56
 \end{array}$$

P.g. B

$$\begin{array}{r}
 15 \\
 + 3 \\
 + 7 \\
 + 20 \\
 + 4 \\
 \hline
 49
 \end{array}$$

Playground A has the larger perimeter.

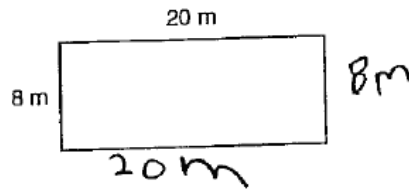
Annotation:

Student identifies most of the important elements of the problem; determines missing dimensions for the rectangle but omits the missing dimension in Playground B. Appropriate conclusion is supported by the calculation of the perimeter for both figures.

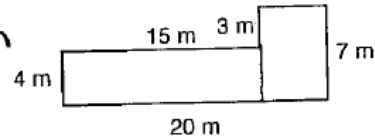
Scoring Guide for Mathematics Open-Response
Question 29

Code
40

Playground A



Playground B



Which playground has the larger perimeter?

Show your work.

$8m$ $20m$ $8m = 56$
 $20m$
 $15m$ $3m$ $5m$ $7m = 54$
 $4m$ $20m$

I think it is A because 56 is higher than 54

Playground A has the larger perimeter.

Annotation:

Student identifies all important elements of the problem; accurately determines the lengths of the missing dimensions in both playgrounds and determines correct perimeters; makes a correct conclusion.

Scoring Guide for Mathematics Open-Response Question 30

Code	Descriptor
B	<ul style="list-style-type: none"> • blank: nothing written or drawn in response to the question
I	<ul style="list-style-type: none"> • <i>Illegible: cannot be read; completely crossed out/erased; not written in English</i> • <i>Irrelevant content: does not attempt assigned question (e.g., comment on the task, drawings, “?”, “!”, “I don’t know”)</i> • <i>Off topic: no relationship of written work to the question</i>
10	<p>Application of knowledge and skills to count forward by 1’s, 2’s, 5’s, 10’s, and 100’s to 1000 from various starting points, and by 25’s to 1000 starting from multiples of 25 shows limited effectiveness due to</p> <ul style="list-style-type: none"> • misunderstanding of concepts • incorrect selection or misuse of procedures
20	<p>Application of knowledge and skills to count forward by 1’s, 2’s, 5’s, 10’s, and 100’s to 1000 from various starting points, and by 25’s to 1000 starting from multiples of 25 shows some effectiveness due to</p> <ul style="list-style-type: none"> • partial understanding of the concepts • errors and/or omissions in the application of the procedures
30	<p>Application of knowledge and skills to count forward by 1’s, 2’s, 5’s, 10’s, and 100’s to 1000 from various starting points, and by 25’s to 1000 starting from multiples of 25 shows considerable effectiveness due to</p> <ul style="list-style-type: none"> • an understanding of most of the concepts • minor errors and/or omissions in the application of the procedures
40	<p>Application of knowledge and skills to count forward by 1’s, 2’s, 5’s, 10’s, and 100’s to 1000 from various starting points, and by 25’s to 1000 starting from multiples of 25 shows a high degree of effectiveness due to</p> <ul style="list-style-type: none"> • a thorough understanding of the concepts • an accurate application of the procedures (any minor errors and/or omissions do not detract from the demonstration of a thorough understanding)

Scoring Guide for Mathematics Open-Response
Question 30

Code
10

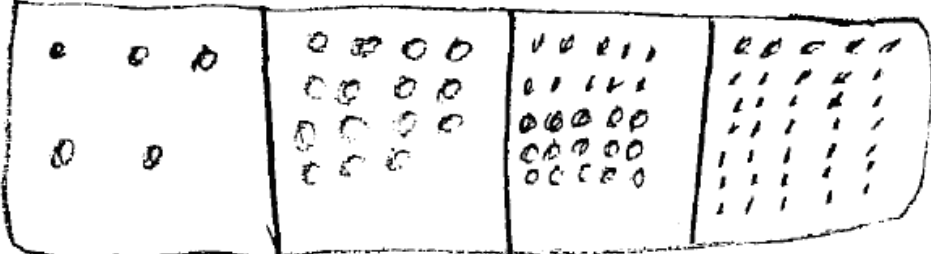
She starts by counting the 5 loose crayons and then adds in each full crayon box like this: 5, 15, 25, 35, . . .

How many crayons does she have in total?

Explain your thinking.

Because $5 + 15 + 25 + 35 = 80$

5



Mrs. Swan has 80 crayons.

Annotation:

Student demonstrates a misunderstanding of concepts and incorrect selection of procedures; does not skip count or represent boxes of 10 crayons. Student adds the numbers presented in the question.

Scoring Guide for Mathematics Open-Response
Question 30

Code
20

She starts by counting the 5 loose crayons and then adds in each full crayon box like this: 5, 15, 25, 35, . . .

How many crayons does she have in total?

Explain your thinking.

She has 45 crayons because the
father n counts by ten's so I added
10 and I got 45

Mrs. Swan has 45 crayons.

Annotation:

Student demonstrates a partial understanding of the concepts; begins to skip count by 10 but does not consider 8 boxes of crayons - continues with one more 10 (box).

Scoring Guide for Mathematics Open-Response
Question 30

Code
30

She starts by counting the 5 loose crayons and then adds in each full crayon box like this: 5, 15, 25, 35, . . .

How many crayons does she have in total?

Explain your thinking.

I got my answer
by adding all of the
80 packs which have 10
crayons.
Mrs. Swan has 80 crayons.

Annotation:

Student demonstrates an understanding of most of the concepts with minor omissions in the application of the procedures; counts 8 boxes of 10 to get 80 but omits the 5 loose crayons.

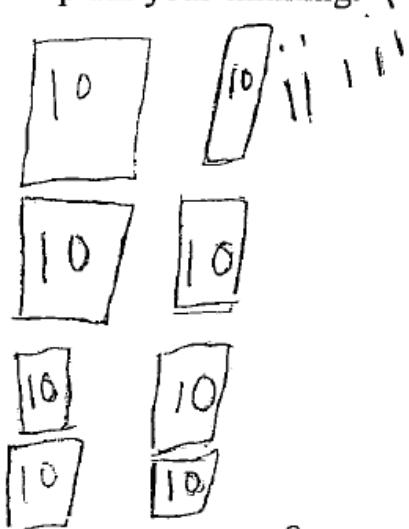
Scoring Guide for Mathematics Open-Response
Question 30

Code
40

She starts by counting the 5 loose crayons and then adds in each full crayon box like this: 5, 15, 25, 35, . . .

How many crayons does she have in total?

Explain your thinking.



Mrs. Swan has 84 crayons in total. You keep on adding 10 crayons

5, 15, 25, 35, 45, 55, 65, 75, 85

Mrs. Swan has 85 crayons.

Annotation:

Student demonstrates a thorough understanding of the concepts due to a correct application of the procedures; shows counting of 8 groups of 10 plus the 5 loose crayons (minor error in statement (84 crayons) does not detract from the demonstration of a thorough understanding).