New York State Testing Program

2017 Common Core

Mathematics Test

Grade **4**

Scoring Leader Materials

Training Set

2-Point Holistic Rubric

2 Point	A two-point response includes the correct solution to the question and demonstrates a thorough understanding of the mathematical concepts and/or procedures in the task. This response • indicates that the student has completed the task correctly, using mathematically sound procedures • contains sufficient work to demonstrate a thorough understanding of the mathematical concepts and/or procedures • may contain inconsequential errors that do not detract from the correct solution and the demonstration of a thorough understanding
1 Point	A one-point response demonstrates only a partial understanding of the mathematical concepts and/or procedures in the task. This response • correctly addresses only some elements of the task • may contain an incorrect solution but applies a mathematically appropriate process • may contain the correct solution but required work is incomplete
0 Point*	A zero-point response is incorrect, irrelevant, incoherent, or contains a correct solution obtained using an obviously incorrect procedure. Although some elements may contain correct mathematical procedures, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.

*Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted).

3-Point Holistic Rubric

3 Point	A three-point response includes the correct solution(s) to the question and demonstrates a thorough understanding of the mathematical concepts and/or procedures in the task. This response • indicates that the student has completed the task correctly, using mathematically sound procedures • contains sufficient work to demonstrate a thorough understanding of the mathematical concepts and/or procedures • may contain inconsequential errors that do not detract from the correct solution(s) and the demonstration of a thorough understanding
2 Point	A two-point response demonstrates a partial understanding of the mathematical concepts and/or procedures in the task. This response • appropriately addresses most, but not all aspects of the task using mathematically sound procedures • may contain an incorrect solution but provides sound procedures, reasoning, and/or explanations • may reflect some minor misunderstanding of the underlying mathematical concepts and/or procedures
1 Point	A one-point response demonstrates only a limited understanding of the mathematical concepts and/or procedures in the task. This response • may address some elements of the task correctly but reaches an inadequate solution and/or provides reasoning that is faulty or incomplete • exhibits multiple flaws related to misunderstanding of important aspects of the task, misuse of mathematical procedures, or faulty mathematical reasoning • reflects a lack of essential understanding of the underlying mathematical concepts • may contain the correct solution(s) but required work is limited
0 Point*	A zero-point response is incorrect, irrelevant, incoherent, or contains a correct solution obtained using an obviously incorrect procedure. Although some elements may contain correct mathematical procedures, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.

*Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted).

2017 2- and 3-Point Mathematics Scoring Policies

Below are the policies to be followed while scoring the mathematics tests for all grades:

1. If a student shows the work in other than a designated "Show your work" or "Explain" area, that work should still be scored.

2. If the question requires students to show their work, and the student shows appropriate work and clearly identifies a correct answer but fails to write that answer in the answer blank, the student should still receive full credit.

3. If students are directed to show work, a correct answer with **no** work shown receives **no** credit.

4. If students are **not** directed to show work, any work shown will **not** be scored. This applies to items that do **not** ask for any work and items that ask for work for one part and do **not** ask for work in another part.

5. If the student provides one legible response (and one response only), the rater should score the response, even if it has been crossed out.

6. If the student has written more than one response but has crossed some out, the rater should score only the response that has **not** been crossed out.

7. Trial-and-error responses are **not** subject to Scoring Policy #6 above, since crossing out is part of the trial-and-error process.

8. If a response shows repeated occurrences of the same conceptual error within a question, the conceptual error should **not** be considered more than once in gauging the demonstrated level of understanding.

9. In questions requiring number sentences, the number sentences must be written horizontally.

10. Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted). This is not to be confused with a score of zero wherein the student does respond to part or all of the question but that work results in a score of zero.

46

A loaf of bread is cut into slices of equal size. Some of the loaf is used in a recipe and $\frac{2}{12}$ of the loaf is used to make a sandwich. The remaining $\frac{7}{12}$ of the loaf is put into the refrigerator. Write and solve an equation to find the fraction of the loaf of bread that is used in the recipe.

Show your work.

Fraction _____

46

A loaf of bread is cut into slices of equal size. Some of the loaf is used in a recipe and $\frac{2}{12}$ of the loaf is used to make a sandwich. The remaining $\frac{7}{12}$ of the loaf is put into the refrigerator. Write and solve an equation to find the fraction of the loaf of bread that is used in the recipe.

Show your work.

$$\frac{2}{12} + \frac{7}{12} + x = \frac{12}{12}$$

$$x = \frac{12}{12} - \left(\frac{2}{12} + \frac{7}{12}\right)$$

$$x = \frac{12}{12} - \frac{9}{12} = \frac{3}{12} = \frac{1}{4}$$

Or other valid process

Fraction $\frac{3}{12}$ _____

46 A loaf of bread is cut into slices of equal size. Some of the loaf is used in a recipe and $\frac{2}{12}$ of the loaf is used to make a sandwich. The remaining $\frac{7}{12}$ of the loaf is put into the refrigerator. Write and solve an equation to find the fraction of the loaf of bread that is used in the recipe.

Show your work.

$$\frac{12}{12} - \left(\frac{7}{12} + \frac{2}{12}\right) = b \qquad \frac{7}{12} + \frac{2}{12} = \frac{9}{12}$$

$$\frac{12}{12} - \frac{9}{12} = \frac{3}{12}$$

$$b = \frac{3}{12}$$

Fraction $\frac{3}{12}$ loaf

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct equation is written and solved to determine the solution, using a mathematically sound procedure.

46

A loaf of bread is cut into slices of equal size. Some of the loaf is used in a recipe and $\frac{2}{12}$ of the loaf is used to make a sandwich. The remaining $\frac{7}{12}$ of the loaf is put into the refrigerator. Write and solve an equation to find the fraction of the loaf of bread that is used in the recipe.

Show your work.

$$\frac{2}{12} + \frac{7}{12} = \frac{9}{12}$$

$$\frac{9}{12} + ? = \frac{12}{12} \text{ or } 1$$

$$\frac{12}{12} - \frac{9}{12} = \frac{3}{12}$$

leftover   sandwich   recipe

▨ = leftover
▢ = sandwich

Fraction $\frac{3}{12}$

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. Multiple equations are written and used to correctly determine the solution. Providing separate equations does not detract from the demonstration of a thorough understanding.

46

A loaf of bread is cut into slices of equal size. Some of the loaf is used in a recipe and $\frac{2}{12}$ of the loaf is used to make a sandwich. The remaining $\frac{7}{12}$ of the loaf is put into the refrigerator. Write and solve an equation to find the fraction of the loaf of bread that is used in the recipe.

Show your work.

$$\frac{12}{12} - \left(\frac{2}{12} + \frac{7}{12}\right) = X$$

$$X = \frac{3}{12}$$

Fraction $X = \frac{3}{12}$

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct equation is written and solved to determine the solution, using a mathematically sound procedure.

GUIDE PAPER 4

46

A loaf of bread is cut into slices of equal size. Some of the loaf is used in a recipe and $\frac{2}{12}$ of the loaf is used to make a sandwich. The remaining $\frac{7}{12}$ of the loaf is put into the refrigerator. Write and solve an equation to find the fraction of the loaf of bread that is used in the recipe.

Show your work.

$$\frac{2}{12} + \frac{7}{12} = \frac{9}{12}$$

$$\begin{array}{r} \frac{12}{12} \\ -\frac{9}{12} \\ \hline \frac{3}{12} \end{array}$$

Fraction ___ $\frac{1}{4}$ ___

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. Although correct calculations and solution are provided, an equation is not written to determine the fraction of bread used in the recipe. Stacked subtraction is not considered acceptable for an equation. As per Scoring Policy #9, in questions requiring number sentences, the number sentences must be written horizontally. The response contains the correct solution but required work is incomplete.

GUIDE PAPER 5

46 A loaf of bread is cut into slices of equal size. Some of the loaf is used in a recipe and $\frac{2}{12}$ of the loaf is used to make a sandwich. The remaining $\frac{7}{12}$ of the loaf is put into the refrigerator. Write and solve an equation to find the fraction of the loaf of bread that is used in the recipe.

Show your work.

$$\frac{7}{12} + \frac{2}{12} = \frac{9}{12}$$

Fraction $\frac{9}{12}$

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. An equation is written solving for the fraction of bread not used in the recipe. The result is not subtracted from 1, and is provided as the final solution. The response contains an incorrect solution but applies a mathematically appropriate process.

GUIDE PAPER 6

46 A loaf of bread is cut into slices of equal size. Some of the loaf is used in a recipe and $\frac{2}{12}$ of the loaf is used to make a sandwich. The remaining $\frac{7}{12}$ of the loaf is put into the refrigerator. Write and solve an equation to find the fraction of the loaf of bread that is used in the recipe.

Show your work.

Total = $\frac{12}{12}$ because there is a total of 12 slices

$$\begin{array}{r} 12 \\ -2 \\ \hline 10 \end{array} \quad \frac{}{12}$$

$$\begin{array}{r} 10 \\ -7 \\ \hline 3 \end{array} \quad \frac{}{12}$$

Fraction ___$\frac{3}{12}$___

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. Although correct calculations and solution are provided, an equation is not written. The response contains the correct solution but required work is incomplete.

46

A loaf of bread is cut into slices of equal size. Some of the loaf is used in a recipe and $\frac{2}{12}$ of the loaf is used to make a sandwich. The remaining $\frac{7}{12}$ of the loaf is put into the refrigerator. Write and solve an equation to find the fraction of the loaf of bread that is used in the recipe.

Show your work.

$\frac{12}{12} - \frac{9}{12}$

3/12

Fraction _____

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. A correct solution is provided; however, the work is erased, is not legible and cannot be scored. As per Scoring Policy #3, if students are directed to show work, a correct answer with no work shown receives no credit.

46 A loaf of bread is cut into slices of equal size. Some of the loaf is used in a recipe and $\frac{2}{12}$ of the loaf is used to make a sandwich. The remaining $\frac{7}{12}$ of the loaf is put into the refrigerator. Write and solve an equation to find the fraction of the loaf of bread that is used in the recipe.

Show your work.

$$\frac{7}{12} - \frac{2}{12} = R$$

$$\frac{7}{12} - \frac{2}{12} = \frac{5}{12}$$

$$R = \frac{5}{12}$$

Fraction $\frac{5}{12}$

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The work is irrelevant and does not address the task.

47 During a weekend sale, a store sold 85 DVDs for $19 each. What is the total amount of money, rounded to the nearest hundred, the store made by selling DVDs?

Show your work.

Answer $ _____

EXEMPLARY RESPONSE

47 | During a weekend sale, a store sold 85 DVDs for $19 each. What is the total amount of money, rounded to the nearest hundred, the store made by selling DVDs?

Show your work.

$$85 \times 19 = (85 \times 10) + (85 \times 9) = 850 + 765 = \$1615$$

$\$1615 \approx \$1600$ rounded to the nearest hundred

Or other valid process

Answer $ \underline{1600}$

47 During a weekend sale, a store sold (85) DVDs for ($19 each). What is the total amount of money, rounded to the nearest hundred, the store made by selling DVDs?

Show your work.

$$
\begin{array}{r}
{}^{4}85 \\
\times\ \$19 \\
\hline
765 \\
+\ 850 \\
\hline
1615
\end{array}
$$

multiplyed

rounding nearest hundred

$1,615 ──→ $1,600

Stay on 600 because 1 is less than 6 (rounding hundred place)

Answer $ __1,600__

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The total amount of money is correctly calculated using a mathematically sound procedure. The solution is correctly rounded to the nearest hundred.

GUIDE PAPER 2

47 During a weekend sale, a store sold 85 DVDs for $19 each. What is the total amount of money, rounded to the nearest hundred, the store made by selling DVDs?

Show your work.

85 DVDs

$$85 \times 19 = 1615$$

$$1615 \approx 1600$$

	10	9
80	80×10 800	80×9 720
5	5×10 50	5×9 45

800
720
50
45
____
1615

Rounded to the nearest hundred is 1600.

Answer $ 1600

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The total amount of money is correctly calculated using a mathematically sound procedure. The solution is correctly rounded to the nearest hundred.

GUIDE PAPER 3

47 During a weekend sale, a store sold 85 DVDs for $19 each. What is the total amount of money, rounded to the nearest hundred, the store made by selling DVDs?

Show your work.

$$\begin{array}{r} 85 \\ \times 10 \\ \hline 850 \end{array} \qquad \begin{array}{r} {}^4 85 \\ \times 9 \\ \hline 765 \end{array} \qquad \begin{array}{r} {}^1 850 \\ + 765 \\ \hline 1,615 \end{array}$$

1,615 = 1,600

Answer $ _____ 1,600 _____

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The total amount of money is correctly calculated using a mathematically sound procedure. The solution is correctly rounded to the nearest hundred.

47 During a weekend sale, a store sold 85 DVDs for $19 each. What is the total amount of money, rounded to the nearest hundred, the store made by selling DVDs?

Show your work.

$$
\begin{array}{r}
4 \\
85 - 90 \\
\times 19 - 20 \\
\hline
1800
\end{array}
$$

$$
\begin{array}{r}
755 \\
+ 850 \\
\hline
1605
\end{array}
$$

Answer $ __1600__

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. A calculation error ($85 \times 9 \neq 755$) results in an incorrect answer for the total amount of money. The final solution is correctly rounded to the nearest hundred. The incorrect work of early rounding is not used in the calculation of the solution and is considered inconsequential. The response contains an incorrect solution but applies a mathematically appropriate process.

GUIDE PAPER 5

47 During a weekend sale, a store sold 85 DVDs for $19 each. What is the total amount of money, rounded to the nearest hundred, the store made by selling DVDs?

Show your work.

```
         6   9
      80 |800|720|
       5 | 50| 45|

          1
         800
         720
          50
          45
       _____
       1,615    is  rounded  to

       $2,000
```

Answer $ 2,000

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The total amount of money is correctly calculated; however, the final solution is rounded to the nearest thousand rather than hundred. The response contains an incorrect solution but applies a mathematically appropriate process.

GUIDE PAPER 6

47 During a weekend sale, a store sold 85 DVDs for $19 each. What is the total amount of money, rounded to the nearest hundred, the store made by selling DVDs?

Show your work.

$85 \times (10+9)$

$$
\begin{array}{r}
4 \\
85 \\
\times 19 \\
\hline
765 \\
+850 \\
\hline
1,615
\end{array}
$$

$$
\begin{array}{r}
85 \\
\times 10 \\
\hline
00 \\
+850 \\
\hline
850
\end{array}
$$

765

$$
\begin{array}{r}
4 \\
85 \\
\times 9 \\
\hline
765
\end{array}
$$

$$
\begin{array}{r}
1 \\
850 \\
+765 \\
\hline
1,615
\end{array}
$$

Answer $ __1,615__

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The total amount of money is correctly calculated; however, the final solution is not rounded. The response contains an incorrect solution but applies a mathematically appropriate process.

GUIDE PAPER 7

47 During a weekend sale, a store sold 85 DVDs for $19 each. What is the total amount of money, rounded to the nearest hundred, the store made by selling DVDs?

Show your work.

$$\begin{array}{r} \$85 \\ \times 19 \\ \hline 895 \\ 850 \\ \hline 1725 \end{array}$$

$$19\overline{)85}$$

Answer $ 1725

Score Point 0 (out of 2 points)

Although a correct multiplication operation is used to determine the solution, the work is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Calculation errors are made when multiplying the two numbers ($85 \times 9 \neq 895$ and $895 + 850 \neq 1725$) and the result is not rounded to the nearest hundred.

47 During a weekend sale, a store sold 85 DVDs for $19 each. What is the total amount of money, rounded to the nearest hundred, the store made by selling DVDs?

Show your work.

8(5)   90

```
 1
 85
+19
104
```
     100

Answer $ 100

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although the solution is correctly rounded to the nearest hundred, it is obtained using an incorrect procedure of adding the two numbers instead of multiplying.
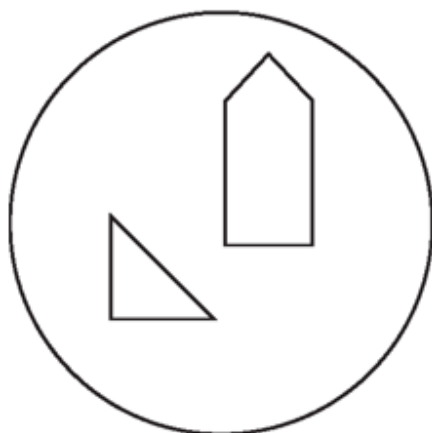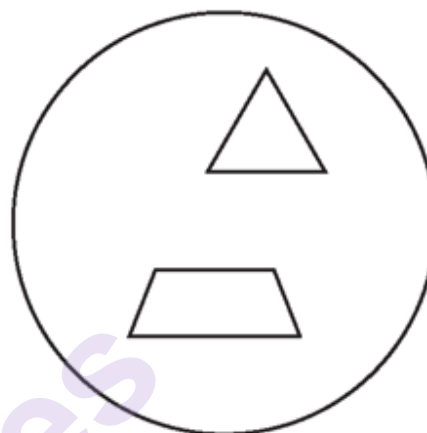
48

Jodi sorted shapes into two groups based on the types of angles they appear to have, as shown below.
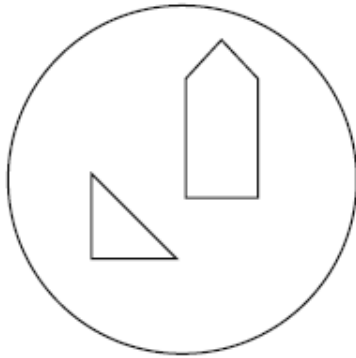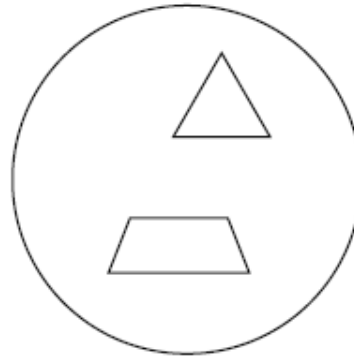
Group A   **Group B**

What do both shapes in Group A have in common? What do both shapes in Group B have in common?

Group A _____

Group B _____

Into which group does the shape below belong?

Group _____

48 Jodi sorted shapes into two groups based on the types of angles they appear to have, as shown below.
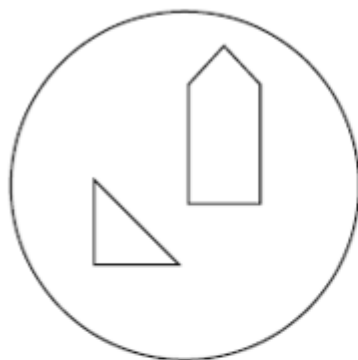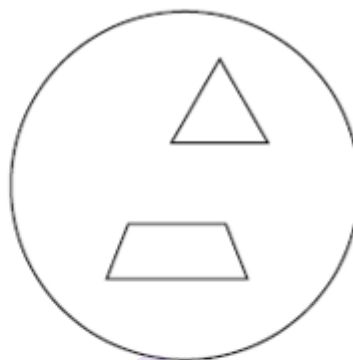
Group A   Group B

What do both shapes in Group A have in common? What do both shapes in Group B have in common?

Group A _Both shapes have at least one right angle._____

Group B _Neither shape has a right angle. Both shapes have at least two acute angles._

Or other valid response

Into which group does the shape below belong?

Group __A_____

48   Jodi sorted shapes into two groups based on the types of angles they appear to have, as shown below.

Group A   Group B

What do both shapes in Group A have in common? What do both shapes in Group B have in common?

Group A

> The things that the shapes in group a have in common is they both have right angles.

Group B

> The things that the shapes in group b have in common is they both have acute angles.

Into which group does the shape below belong?

Group   A

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct common property is identified for each group, and the shape is correctly placed in Group A.

GUIDE PAPER 2

48

Jodi sorted shapes into two groups based on the types of angles they appear to have, as shown below.
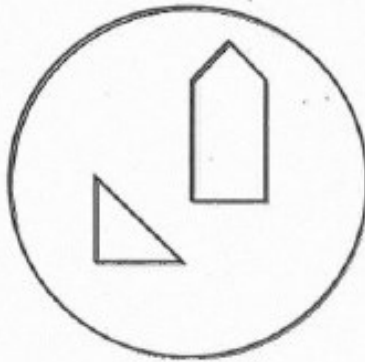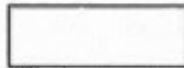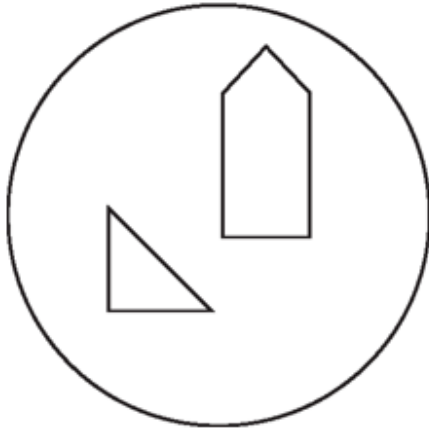
Group A

Group B

What do both shapes in Group A have in common? What do both shapes in Group B have in common?

Group A _The shapes both have right angles_

Group B _The shapes both have acute angles_

Into which group does the shape below belong?

Group _A_

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct common property is identified for each group, and the shape is correctly placed in Group A.

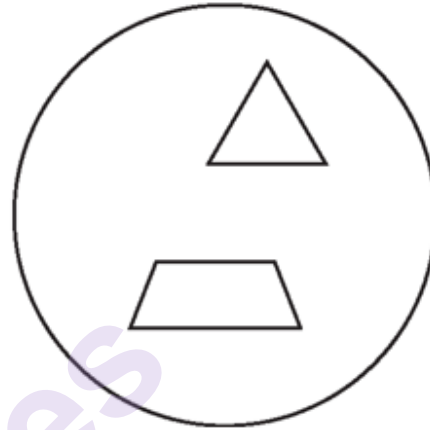**48** Jodi sorted shapes into two groups based on the types of angles they appear to have, as shown below.

Group A

Group B

What do both shapes in Group A have in common? What do both shapes in Group B have in common?

Group A

They have at least one right angle.

Group B

They have at least 2 acute angles.

Into which group does the shape below belong?

Group A

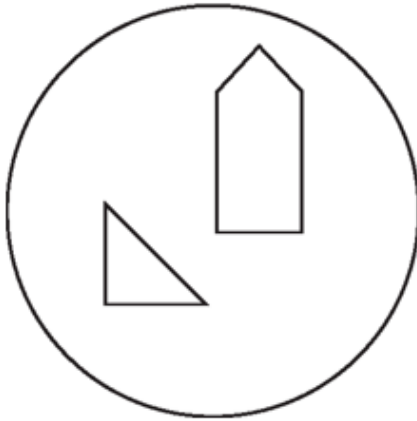---

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct common property is identified for each group, and the shape is correctly placed in Group A.

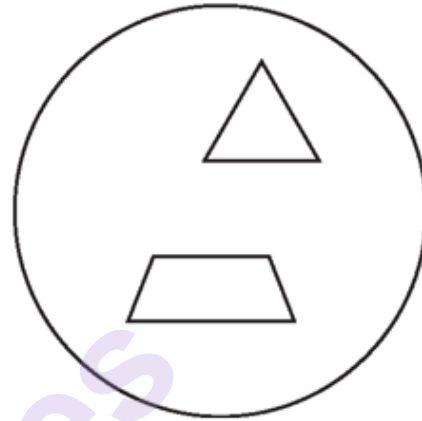# GUIDE PAPER 4

48 Jodi sorted shapes into two groups based on the types of angles they appear to have, as shown below.

Group A   Group B

What do both shapes in Group A have in common? What do both shapes in Group B have in common?

Group A

> In group A they both have odd sides.

Group B

> In group B they both have 1 pair of intersecting lines.

Into which group does the shape below belong?

Group | A |

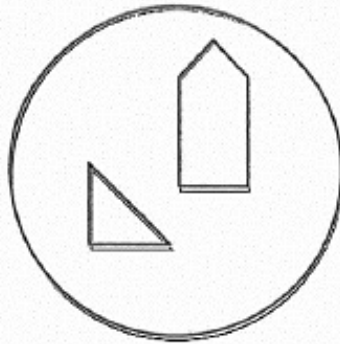## Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. A correct common property is identified for Group A; however, the placement of the shape in Group A is incorrect based on the chosen common property (odd number of sides). The response correctly addresses only some elements of the task.
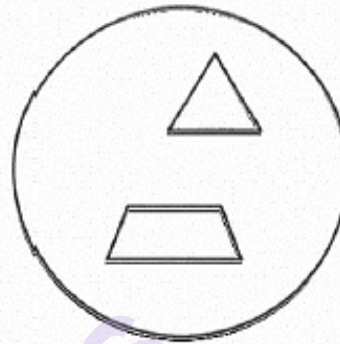
48

Jodi sorted shapes into two groups based on the types of angles they appear to have, as shown below.

Group A   **Group B**

What do both shapes in Group A have in common? What do both shapes in Group B have in common?

Group A _there both right angles_

Group B _there both obtuse angles_

Into which group does the shape below belong?

Group ___A___

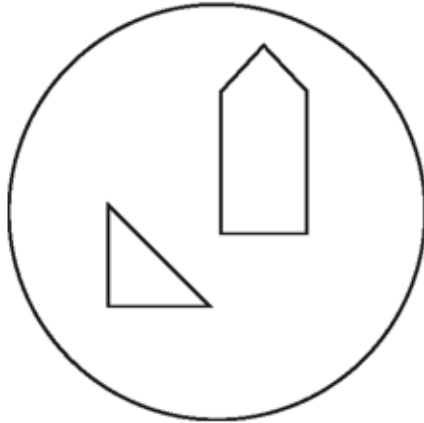it is a right angle

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. A correct common property is identified for Group A and the shape is correctly placed in this group; however, the description for Group B is incorrect. The response correctly addresses only some elements of the task.
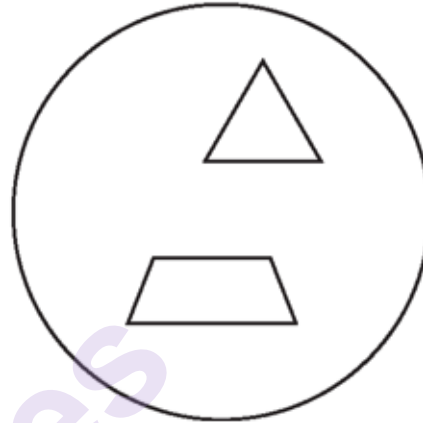
48 Jodi sorted shapes into two groups based on the types of angles they appear to have, as shown below.

Group A   Group B

What do both shapes in Group A have in common? What do both shapes in Group B have in common?

Group A

Using my protracter what group A has in common is that they both have 90 degree angles.

Group B

They are odd and even angles.

Into which group does the shape below belong?

Group | b |
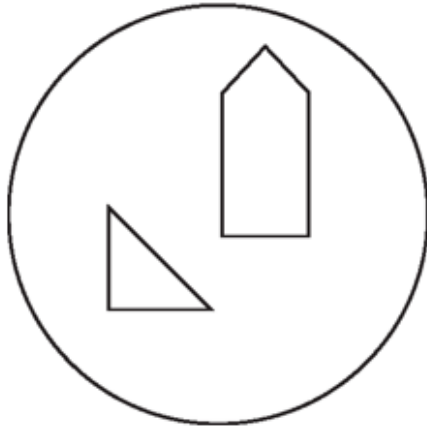

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. A correct common property is identified for Group A and the shape is correctly placed in Group B based on the chosen common property (even number of angles); however, the common property for Group B is identified incorrectly.
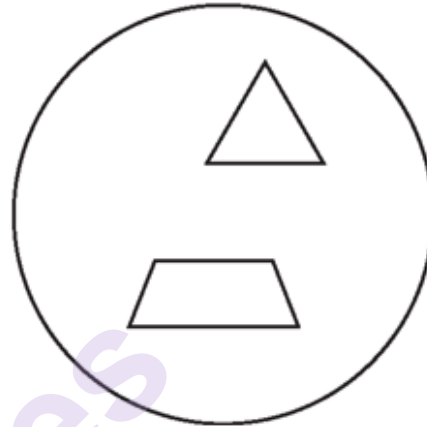
GUIDE PAPER 7

48 Jodi sorted shapes into two groups based on the types of angles they appear to have, as shown below.

Group A   Group B

What do both shapes in Group A have in common? What do both shapes in Group B have in common?

Group A

> They both have 3 sides

Group B

> 1 is paraell 1 is not

Into which group does the shape below belong?

Group | A |

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. An incorrect common property is identified for Group A and the placement of the shape in Group A is not supported by the chosen common property for this group. The explanation for Group B is incorrect.
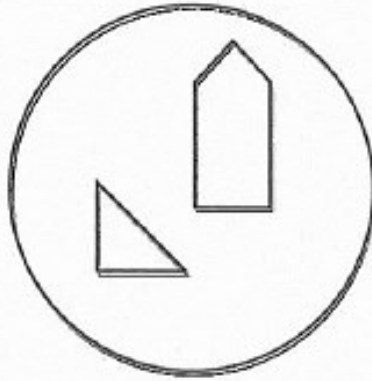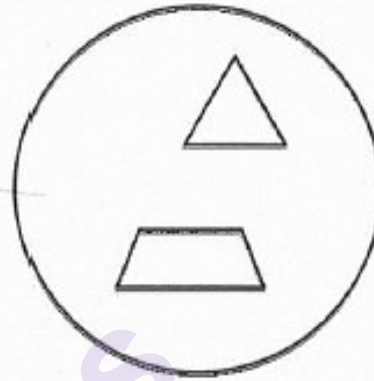
48

Jodi sorted shapes into two groups based on the types of angles they appear to have, as shown below.

Group A   **Group B**

What do both shapes in Group A have in common? What do both shapes in Group B have in common?

Group A _At the top of the long one is a triangle_

Group B _Together they look like one large triangle._

Into which group does the shape below belong?
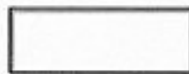
Group ___A___

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Common properties are incorrectly identified and the placement of the shape in Group A is not supported by the explanation.

49 For a math project, Roxana made the table below to show the amount of time she spent doing different activities last weekend.

WEEKEND ACTIVITIES

Activity	Time Spent (hours)
Dance Class	$\frac{6}{5}$
Reading	$\frac{4}{12}$
Soccer	$\frac{7}{8}$
Swimming	$\frac{2}{6}$

On which activities did Roxana spend more than $\frac{1}{2}$ an hour? Explain how you know which activities would take more than $\frac{1}{2}$ an hour.

Show your work.

Answer _____

EXEMPLARY RESPONSE

49 For a math project, Roxana made the table below to show the amount of time she spent doing different activities last weekend.

WEEKEND ACTIVITIES

Activity	Time Spent (hours)
Dance Class	$\frac{6}{5}$
Reading	$\frac{4}{12}$
Soccer	$\frac{7}{8}$
Swimming	$\frac{2}{6}$

On which activities did Roxana spend more than $\frac{1}{2}$ an hour? Explain how you know which activities would take more than $\frac{1}{2}$ an hour.

Show your work.

Dance $6/5 = 1\frac{1}{5} = 1^2/_{10} = {}^{12}/_{10};\ 1/2 = {}^5/_{10};\ {}^{12}/_{10} > {}^5/_{10}$ therefore $6/5 > 1/2$

Reading $4/12 = 1/3 = 2/6;\ 1/2 = 3/6;\ 2/6 < 3/6$ therefore $4/12 < 1/2$

Soccer $1/2 = 4/8;\ 7/8 > 4/8$ therefore $7/8 > 1/2$

Swimming $1/2 = 3/6;\ 2/6 < 3/6$ therefore $2/6 < 1/2$

Or other valid response

Answer   Dance Class and Soccer

49 For a math project, Roxana made the table below to show the amount of time she spent doing different activities last weekend.

WEEKEND ACTIVITIES

Activity	Time Spent (hours)
Dance Class	$\frac{6}{5}$
Reading	$\frac{4}{12}$
Soccer	$\frac{7}{8}$
Swimming	$\frac{2}{6}$

On which activities did Roxana spend more than $\frac{1}{2}$ an hour? Explain how you know which activities would take more than $\frac{1}{2}$ an hour.   Dance class

Show your work.

Reading   Soccer   Swimming

Answer

Dance class and Soccer took more than $\frac{1}{2}$ an hour. Soccer was $\frac{7}{8}$ of an hour. Half of 8 is 4. Dance class was $\frac{6}{5}$ of an hour. Thats 1 hour and about 15 minutes. So these activities are more than half an hour.

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. Correct activities are chosen and the explanation is complete and correct.
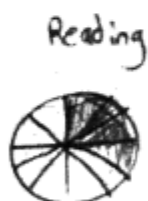
GUIDE PAPER 2

49 For a math project, Roxana made the table below to show the amount of time she spent doing different activities last weekend.

WEEKEND ACTIVITIES

Activity	Time Spent (hours)
Dance Class	$\frac{6}{5}$
Reading	$\frac{4}{12}$
Soccer	$\frac{7}{8}$
Swimming	$\frac{2}{6}$

On which activities did Roxana spend more than $\frac{1}{2}$ an hour? Explain how you know which activities would take more than $\frac{1}{2}$ an hour.

Show your work.

① $\frac{6}{5}$ – Dance Class

② $\frac{7}{8}$ – Soccer

Answer

Dance Class and Soccer take more than $\frac{1}{2}$ an hour. I know that because $\frac{6}{5}$ is more than 1 and $\frac{4}{8}$ is $\frac{1}{2}$. $\frac{7}{8}$ is more than $\frac{4}{8}$.

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. Correct activities are chosen and the explanation is complete and correct. As per Scoring Policy #1, if a student shows the work in other than a designated area, that work should still be scored.

GUIDE PAPER 3

49

For a math project, Roxana made the table below to show the amount of time she spent doing different activities last weekend.

WEEKEND ACTIVITIES

Activity	Time Spent (hours)
Dance Class ✓	$\frac{6}{5} = 1\frac{1}{5}$
Reading	$\frac{4}{12}$
Soccer ✓	$\frac{7}{8}$
Swimming	$\frac{2}{6}$

On which activities did Roxana spend more than $\frac{1}{2}$ an hour? Explain how you know which activities would take more than $\frac{1}{2}$ an hour.

Show your work.

$\frac{2}{6}$ $\frac{1}{2} \cdot \frac{6}{12}$ $2\sqrt{9\frac{6}{6}}$ $\frac{6}{5} = 1\frac{1}{5} > \frac{1}{2}$ $\frac{8}{24}$

$\frac{4}{12}$ $\frac{7}{8} > \frac{8}{16}$ $\frac{12}{24}$ $\frac{1}{2} > \frac{8}{24}$

Answer

The activites that took more than $\frac{1}{2}$ an hour is Dance Class and Soccer. I know this because I compared the two fractions and $\frac{6}{5}$ is equal to $1\frac{1}{3}$ and is greater than $\frac{1}{2}$. $\frac{7}{8}$ is greater than $\frac{1}{2}$.

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. Correct answer and explanation are provided. The work shows only numerators of fractions multiplied by a factor; however, the numerator and denominator are both multiplied by the same factor, and the equivalent fractions are correctly calculated. This is considered an inconsequential error that does not detract from the correct solution and the demonstration of a thorough understanding.

49 For a math project, Roxana made the table below to show the amount of time she spent doing different activities last weekend.

WEEKEND ACTIVITIES

Activity	Time Spent (hours)
Dance Class	$\frac{6}{5}$
Reading	$\frac{4}{12}$
Soccer	$\frac{7}{8}$
Swimming	$\frac{2}{6}$

On which activities did Roxana spend more than $\frac{1}{2}$ an hour? Explain how you know which activities would take more than $\frac{1}{2}$ an hour.

Show your work.

$$\frac{7}{8} \searrow \frac{4}{8}$$

Answer

Soccer because if Soccer was a half of an hour it would be $\frac{4}{8}$ and soccer is $\frac{7}{8}$ So it's more than half.

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. One activity is identified and a correct explanation for choosing this activity is provided. The response correctly addresses only some elements of the task.

49 For a math project, Roxana made the table below to show the amount of time she spent doing different activities last weekend.

WEEKEND ACTIVITIES

Activity	Time Spent (hours)
Dance Class	$\frac{6}{5}$
Reading	$\frac{4}{12}$
Soccer	$\frac{7}{8}$
Swimming	$\frac{2}{6}$

On which activities did Roxana spend more than $\frac{1}{2}$ an hour? Explain how you know which activities would take more than $\frac{1}{2}$ an hour.

Show your work.   12 ○ 5
$$\frac{6}{5} \times \frac{1}{2}$$

Answer

$\frac{6}{5}$ is more than a half an hour because If you do cross multiply, $\frac{6}{5}$ would be more than a half an hour.

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. One activity is identified and a correct explanation for choosing this activity is provided. The response correctly addresses only some elements of the task.

49

For a math project, Roxana made the table below to show the amount of time she spent doing different activities last weekend.

WEEKEND ACTIVITIES

Activity	Time Spent (hours)
Dance Class	$\frac{6}{5}$
Reading	$\frac{4}{12}$
Soccer	$\frac{7}{8}$
Swimming	$\frac{2}{6}$

On which activities did Roxana spend more than $\frac{1}{2}$ an hour? Explain how you know which activities would take more than $\frac{1}{2}$ an hour.

Show your work.

Dance class $\frac{6}{5} = 1\frac{1}{5} = 1$ hour 12 minutes

soccer $\frac{7}{8} = \frac{3}{4} =$ more than a half hour

Answer

my answer is dance class and soccer is more than $\frac{1}{2}$ of an hour.

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. Two correct activities are identified and a correct explanation for dance class is provided; however, the work for soccer ($^7/_8 \neq {}^3/_4$) is incorrect. The response correctly addresses only some elements of the task.

GUIDE PAPER 7

49 For a math project, Roxana made the table below to show the amount of time she spent doing different activities last weekend.

WEEKEND ACTIVITIES

Activity	Time Spent (hours)
Dance Class	$\frac{6}{5}$
Reading	$\frac{4}{12}$
Soccer	$\frac{7}{8}$
Swimming	$\frac{2}{6}$

On which activities did Roxana spend more than $\frac{1}{2}$ an hour? Explain how you know which activities would take more than $\frac{1}{2}$ an hour.

Show your work.

Dance	Reading	Soccer	Swimming
$\frac{6}{5}$	$\frac{4}{12}$	$\frac{7}{8}$	$\frac{2}{6}$

$\frac{6}{5}$ $\frac{1}{2}$

$\frac{4}{12}$ $\frac{1}{2}$

$\frac{2}{6}$ $\frac{1}{2}$

$\frac{2}{6}$ $\frac{1}{2}$

Answer

Roxana spent more than 1/2 an hour on dance. Classes.

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although dance class is chosen, the chart provided for this activity is incorrect. Soccer activity is correctly represented on the chart; however, it is not chosen.

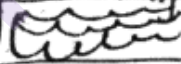**49** For a math project, Roxana made the table below to show the amount of time she spent doing different activities last weekend.

WEEKEND ACTIVITIES

Activity	Time Spent (hours)
Dance Class	$\frac{6}{5}$
Reading	$\frac{4}{12}$
Soccer	$\frac{7}{8}$
Swimming	$\frac{2}{6}$

On which activities did Roxana spend more than $\frac{1}{2}$ an hour? Explain how you know which activities would take more than $\frac{1}{2}$ an hour.

Show your work.

$$\frac{6}{5} \bigcirc > \frac{2}{6}$$

Answer

Swiming because it takes more time.

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. An incorrect activity is chosen and the work inappropriately compares the time for swimming with the time for dance class.

50 The figure below represents a play space that Logan fenced in for his dog.
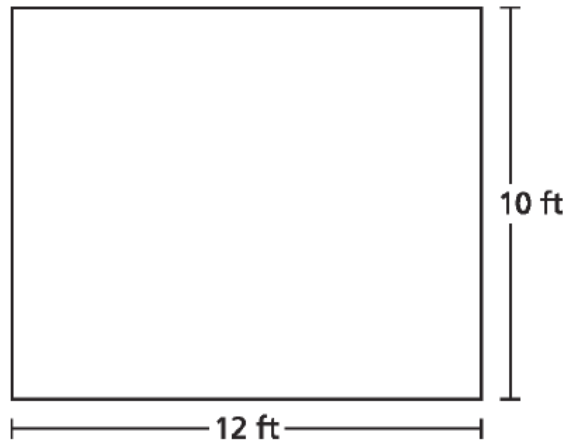
Logan is getting a second dog and wants to increase the length of the play space by 3 feet and the width by 3 feet. What will be the difference in the area, in square feet, between the original play space and the new play space?

Show your work.

Answer _____ square feet

EXEMPLARY RESPONSE

50 The figure below represents a play space that Logan fenced in for his dog.

Logan is getting a second dog and wants to increase the length of the play space by 3 feet and the width by 3 feet. What will be the difference in the area, in square feet, between the original play space and the new play space?

Show your work.

Original area $10 \times 12 = 120$ sq ft

New area $(10 + 3) \times (12 + 3) = 13 \times 15 = 195$ sq ft
Or
$120 + (3 \times 10) + (3 \times 12) + (3 \times 3) = 120 + 75 = 195$ sq ft

Difference $195 - 120 = 75$ sq ft

Or other valid process

Answer _____75_____ square feet

50 The figure below represents a play space that Logan fenced in for his dog.

10 ft
w

12 ft
L

Logan is getting a second dog and wants to increase the length of the play space by <u>3 feet</u> and the <u>width</u> by <u>3 feet</u>. What will be the (difference) in the area, in <u>square feet</u>, between the original play space and the new play space?

Show your work. new L new width
12 + 3 = 15
10 + 3 = 1 3 +new 2

10 0
10 | 100 | 0
| 20 | 0
| 120

10 + 3 = 13 +new
12 + 3 = 15
new
L

150
10 x 10 = 100
10 x 5 = 50
10 x 3 = 30
3 x 5 = 15
—45

10   5
10 | 100 | 50
3 | 30 | 15
230   195

195
- 120
(0 7 5)
diffe
-nce
initial
spaces

20 x 12
10 x 1 = 190
10 x 10 = 100
10 x 2 = 20 120

150
+ 45
195

120
+ 0 (70)
190

190
+ (0) 9
195

+ 70
5
(75)

Answer ___75___ square feet

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The play space areas and the difference between the areas are correctly calculated using mathematically sound procedures.

50 The figure below represents a play space that Logan fenced in for his dog.

10 ft

12 ft

Logan is getting a second dog and wants to increase the length of the play space by 3 feet and the width by 3 feet. What will be the difference in the area, in square feet, between the original play space and the new play space?
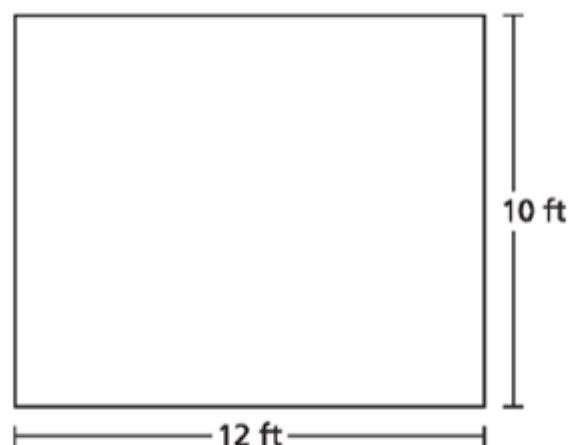
Show your work.

```
 195
-120
 75
```

```
120
 12
```

10 →

```
195

 15
```

```
13
  15
 x13
  45
+150
 195
```

Answer ___75___ square feet

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The play space areas and the difference between the areas are correctly determined using mathematically sound procedures. The area of the original play space is calculated mentally, which is acceptable.

50 The figure below represents a play space that Logan fenced in for his dog.

10 ft

$$\begin{array}{r} 12 \\ \times 10 \\ \hline 00 \\ 126 \end{array}$$

12 ft

Logan is getting a second dog and wants to increase the length of the play space by 3 feet and the width by 3 feet. What will be the difference in the area, in square feet, between the original play space and the new play space?

Show your work. *Now...*

13ft

15ft

Answer 75 square feet

$$\begin{array}{r} 15 \\ \times 13 \\ \hline 45 \\ +150 \\ \hline 1\cancel{0}5 \\ 120 \\ \hline 75 \end{array}$$

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The play space areas and the difference between the areas are correctly calculated using mathematically sound procedures.
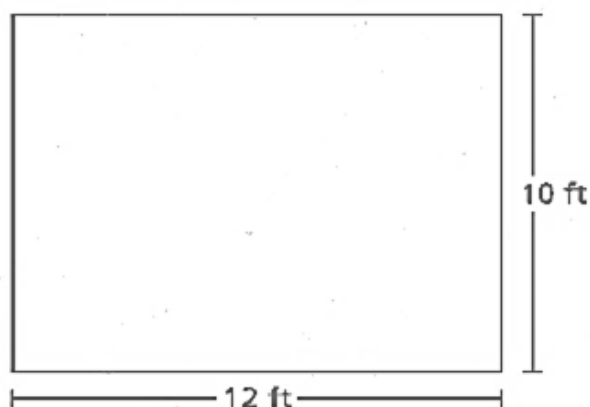
GUIDE PAPER 4

50 | The figure below represents a play space that Logan fenced in for his dog.

$$12 \times 10 = 120 \text{ sq. ft.}$$

10 ft

$$\begin{array}{r} 12 \\ \times\ 10 \\ \hline 120 \end{array}$$

|— 12 ft —|

Logan is getting a second dog and wants to increase the length of the play space by 3 feet and the width by 3 feet. What will be the difference in the area, in square feet, between the original play space and the new play space?

Show your work.

$$\begin{array}{r} 12 \\ +\ 3 \\ \hline 15 \end{array} \qquad \begin{array}{r} 10 \\ +\ 3 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 1\ 5 \\ \times\ 1\ 3 \\ \hline 1\ 5 \\ +\ 3\ 0 \\ \hline 5\ 0 \\ \underline{1\ 0\ 0} \\ 1\ 9\ 5 \end{array}$$

$A = l \times W$
$A = 195$ Square feet
$A = 15 \times 13$

The new play Space is 195 Square feet.

Answer ___195___ square feet
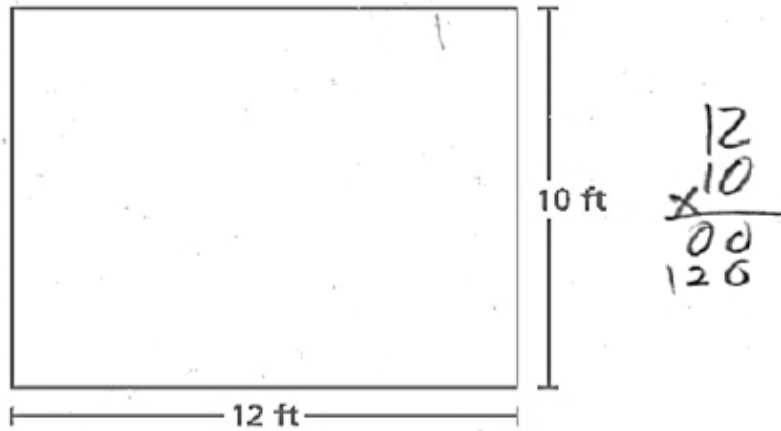

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The play space areas are correctly calculated; however, the difference between the areas is not addressed and the new play space area is provided as the solution. The response contains an incorrect solution but applies a mathematically appropriate process.

GUIDE PAPER 5

50 The figure below represents a play space that Logan fenced in for his dog.
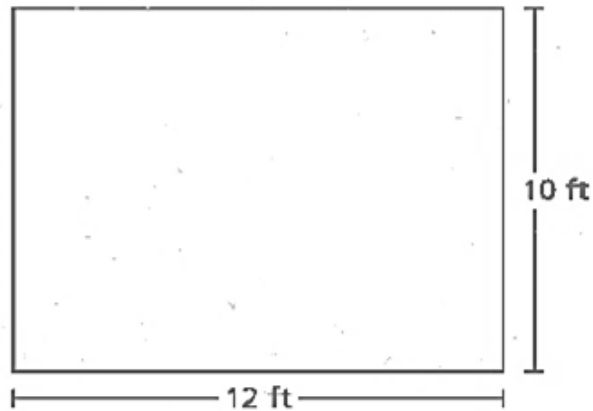
10 ft

12 ft

Logan is getting a second dog and wants to increase the length of the play space by 3 feet and the width by 3 feet. What will be the difference in the area, in square feet, between the original play space and the new play space?

Show your work.

$$
\begin{array}{r}
10 \\
2\!\!\not{4}5 \\
-120 \\
\hline
85
\end{array}
$$

13ft

15ft

$$
\begin{array}{r}
15 \\
\times 13 \\
\hline
55 \\
+150 \\
\hline
205
\end{array}
$$

Answer ___85___ square feet

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. A calculation error is made when determining the new play space area ($15 \times 3 \neq 55$). The difference between the areas is correctly calculated. The response contains an incorrect solution but applies a mathematically appropriate process.
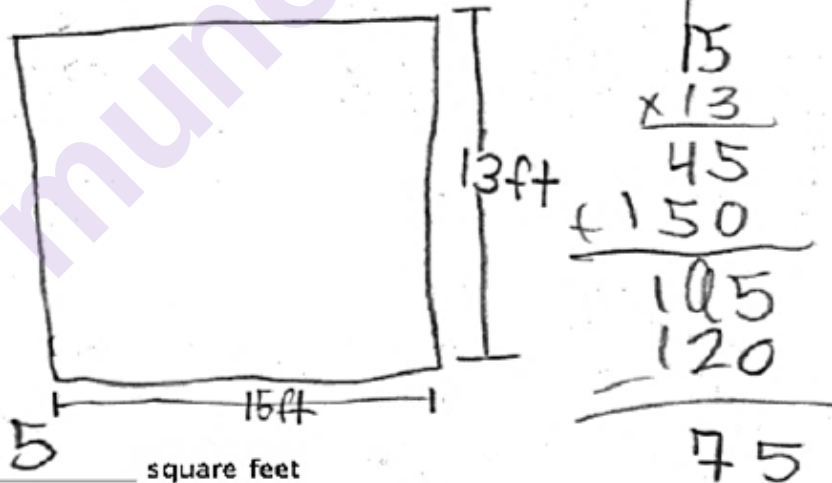
50 The figure below represents a play space that Logan fenced in for his dog.
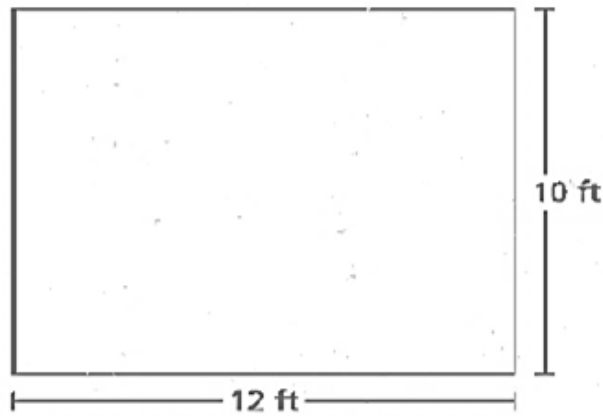
Logan is getting a second dog and wants to increase the length of the play space by 3 feet and the width by 3 feet. What will be the difference in the area, in square feet, between the original play space and the new play space?

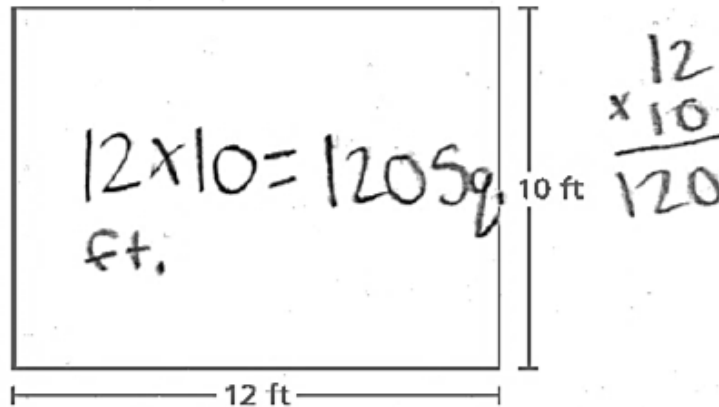**Show your work.**

Answer ____46____ square feet

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The area of the original play space is correctly calculated. One of the dimensions of the new play space is not increased by 3 and a calculation error is made $(13 \times 2 \neq 36)$, resulting in an incorrect new area and solution. The response contains an incorrect solution but applies a mathematically appropriate process.

GUIDE PAPER 7

50 The figure below represents a play space that Logan fenced in for his dog.
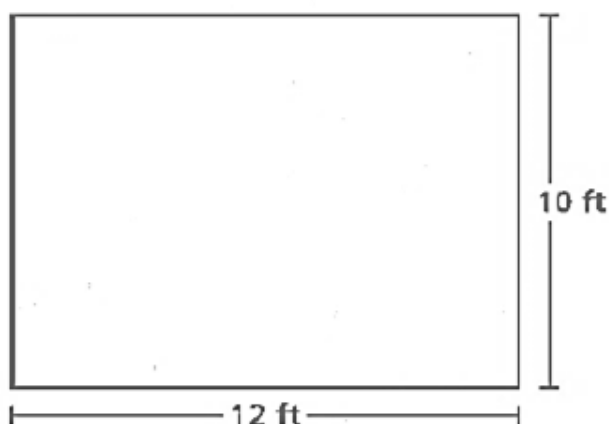
10 ft

12 ft

Logan is getting a second dog and wants to increase the length of the play space by 3 feet and the width by 3 feet. What will be the difference in the area, in square feet, between the original play space and the new play space?

Show your work.

3ft = 9 sq. ft.

3ft

3ft
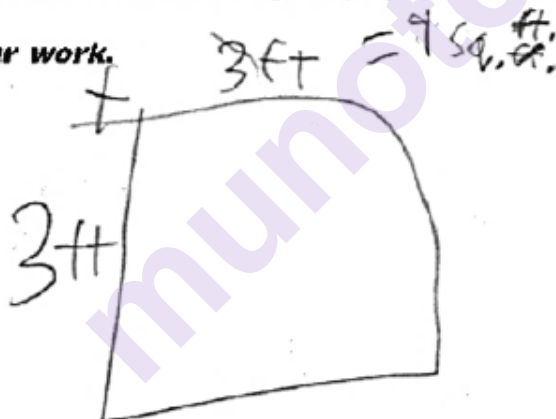
Answer _____9ft_____ square feet

Score Point 0 (out of 2 points)

Although some elements may contain correct mathematical procedures, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Only the area of a 3 × 3 square is calculated and provided as the solution.
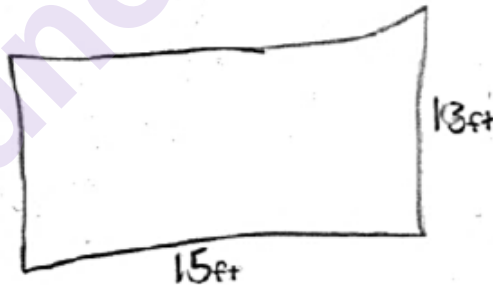
50 The figure below represents a play space that Logan fenced in for his dog.

10 ft

12 ft

Logan is getting a second dog and wants to increase the length of the play space by 3 feet and the width by 3 feet. What will be the difference in the area, in square feet, between the original play space and the new play space?

Show your work.

10 ft

12

$$\begin{array}{r} 10 \\ +12 \\ \hline 22 \end{array}$$

Answer _____22_____ square feet

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The original dimensions are inappropriately added rather than multiplied. The new play space is not addressed.

51 Aisha and Dave play the same computer game and compare their highest score each morning. Today, Aisha said that she scored thirty thousand twenty-five points, and Dave said that he scored thirty thousand two-hundred-five points.

Write a number sentence using one of the symbols, $>$, $<$, or $=$, to correctly compare Aisha's number of points to Dave's number of points.

Answer _____

EXEMPLARY RESPONSE

51 Aisha and Dave play the same computer game and compare their highest score each morning. Today, Aisha said that she scored thirty thousand twenty-five points, and Dave said that he scored thirty thousand two-hundred-five points.

Write a number sentence using one of the symbols, $>$, $<$, or $=$, to correctly compare Aisha's number of points to Dave's number of points.

Answer _____

$30{,}025 < 30{,}205$

Or

$30{,}205 > 30{,}025$

Or other valid response

51

Aisha and Dave play the same computer game and compare their highest score each morning. Today, Aisha said that she scored thirty thousand twenty-five points, and Dave said that he scored thirty thousand two-hundred-five points.

Write a number sentence using one of the symbols, >, <, or =, to correctly compare Aisha's number of points to Dave's number of points.

Answer 30,025 < 30,205

## Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct number sentence is written to compare the scores. The comma is misplaced in the work; however, as per Scoring Policy #4, if students are not directed to show work, any work shown will not be scored.

51

Aisha and Dave play the same computer game and compare their highest score each morning. Today, Aisha said that she scored thirty thousand twenty-five points, and Dave said that he scored thirty thousand two-hundred-five points.

Write a number sentence using one of the symbols, >, <, or =, to correctly compare Aisha's number of points to Dave's number of points.

Answer 30,025 Ⓢ 30,205

30,025 Ⓢ 30,205

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct number sentence is written to compare the scores.

GUIDE PAPER 3

51 Aisha and Dave play the same computer game and compare their highest score each morning. Today, Aisha said that she scored thirty thousand twenty-five points, and Dave said that he scored thirty thousand two-hundred-five points.

Write a number sentence using one of the symbols, >, <, or =, to correctly compare Aisha's number of points to Dave's number of points.

Answer Dave's is grater

less
different   Same   grater
different

30,025 < 30,205

SO,

30,205 is grater

than 30,025

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct number sentence is written to compare the scores.

51

Aisha and Dave play the same computer game and compare their highest score each morning. Today, Aisha said that she scored thirty thousand twenty-five points, and Dave said that he scored thirty thousand two-hundred-five points.

Write a number sentence using one of the symbols, >, <, or =, to correctly compare Aisha's number of points to Dave's number of points.

Answer $30,025 > 30,205$

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. Correct numbers are written; however, they are incorrectly compared. The response correctly addresses only some elements of the task.

GUIDE PAPER 5

51 Aisha and Dave play the same computer game and compare their highest score each morning. Today, Aisha said that she scored thirty thousand twenty-five points, and Dave said that he scored thirty thousand two-hundred-five points.

Write a number sentence using one of the symbols, >, <, or =, to correctly compare Aisha's number of points to Dave's number of points.

Answer 3025 < 30205

3025   30205

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. Dave's number is correct; however, Aisha's number is missing a 0 in the thousands place. The two numbers are correctly compared. The response correctly addresses only some elements of the task.

GUIDE PAPER 6
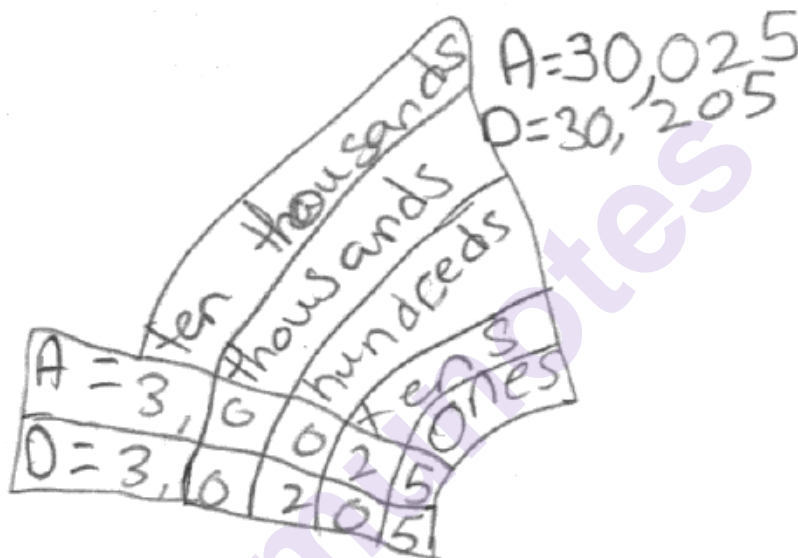
51 Aisha and Dave play the same computer game and compare their highest score each morning. Today, Aisha said that she scored thirty thousand twenty-five points, and Dave said that he scored thirty thousand two-hundred-five points.

Write a number sentence using one of the symbols, >, <, or =, to correctly compare Aisha's number of points to Dave's number of points.

Answer $3025 \cancel{<} 3205$

$3025 \enspace \textcircled{<} \enspace 3205$

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. Although a correct comparison is provided, both numbers are missing a 0 in the thousands place. The response correctly addresses only some elements of the task. As per Scoring Policy #8, if a response shows repeated occurrences of the same conceptual error within a question, the conceptual error should not be considered more than once in gauging the demonstrated level of understanding.
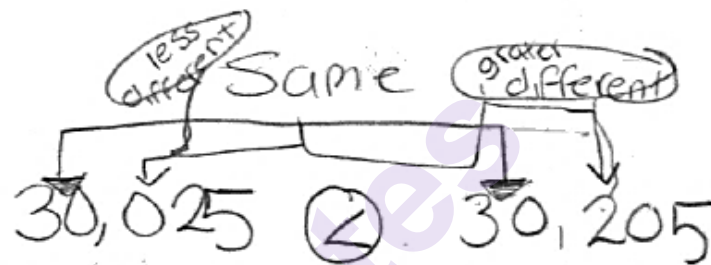
GUIDE PAPER 7

51 Aisha and Dave play the same computer game and compare their highest score each morning. Today, Aisha said that she scored thirty thousand twenty-five points, and Dave said that he scored thirty thousand two-hundred-five points.

Write a number sentence using one of the symbols, >, <, or =, to correctly compare Aisha's number of points to Dave's number of points.

Answer _____

3,250 ⊖ 3,250

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The work is irrelevant and does not address the task.

51 Aisha and Dave play the same computer game and compare their highest score each morning. Today, Aisha said that she scored thirty thousand twenty-five points, and Dave said that he scored thirty thousand two-hundred-five points.

Write a number sentence using one of the symbols, >, <, or =, to correctly compare Aisha's number of points to Dave's number of points.

Answer 13,025

13,025 ⊘ 13,205

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The numbers and the comparison are incorrect.

52

Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

Answer _____ prizes

EXEMPLARY RESPONSE

52 Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

$15 + 13 + 16 = 44$ books

$44 \times 2 = 88$ tickets

$88 \div 5 = 17$ prizes and 3 left over tickets

Or other valid process

Answer ___17___ prizes

52

Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

I added 15+13 and got 28. Then I added 28&16 and got 44. So he Won 44 prizes

$$\begin{array}{r} 15 \\ +13 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 28 \\ +16 \\ \hline 44 \text{ books} \\ \times 2 \\ \hline 88 \text{ tickets} \end{array}$$

Answer ___17___ prizes

$$\begin{array}{r} 17\text{r}3 \\ 5\overline{)88.} \\ -5 \\ \hline 38 \\ -35 \\ \hline 3 \end{array}$$

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The number of tickets is correctly calculated and a correct solution is determined using mathematically sound procedures. The response is complete and correct.

GUIDE PAPER 2

52

Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

①
| 15 | 16 | 13 |

?

Answer __17__ prizes

① 15
  + 16
  —
  31
  + 13
  —
  44

② 44
  × 2
  —
  88

③ 5)88 17 r3
  -5
  —
  38
  -35
  —
  3

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The number of tickets is correctly calculated and a correct solution is determined using mathematically sound procedures.

GUIDE PAPER 3

52

Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

$$\begin{array}{r} \overset{1}{1}5 \\ +\ 13 \\ \underline{16} \\ 44\ books \end{array}$$

$$\begin{array}{r} \overset{4}{4}4 \\ \times\quad 2 \\ \hline 88\ tickets \end{array}$$

$$\begin{array}{r} 17\ r3 \\ 5\overline{)88} \\ \underline{-5}\downarrow \\ 38 \\ \underline{-35} \\ 3 \end{array}$$

Answer __17__ prizes

First, I added the number of books he read and multiplied by two. I did this because every book he read, was two tick He has 88 tickets. Then I divided the number because he can buy a prize for 5 tickets and h wants to buys much as he can. He can buy 17 prizes.

GO ON

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The number of tickets is correctly calculated and a correct solution is determined using mathematically sound procedures.
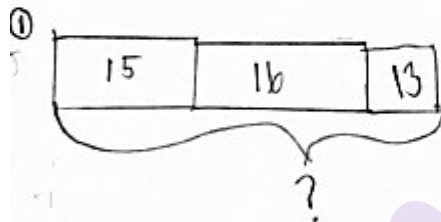
GUIDE PAPER 4

Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 7 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15×2=30
February	13 ×2=36
March	16× 2=22

~98

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

So, what I did is I multiply all the books and then I add altogether and it got me 98 then I subtracted by 5 all the way to zero and it is 19 Prizes

Answer ___19___ prizes

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. A correct process of repeated subtraction is used to determine the solution; however, a calculation error $(13 \times 2 \neq 36)$ results in an incorrect answer for the number of tickets and the final solution. The response contains an incorrect solution but provides mathematically sound procedures.

52 Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

"Think more than 16

Jan. books	Feb. books	March bks	Prize able to buy
15 +	13	+16	Sam was able to get 16 prizes

16
15
31

31
+13
44

44
×2
88 tickets

$5\overline{)88}$ = 16 R3
80 | 16
8
5
R3 | 16

Answer __16__ prizes

Som got 16 prizes because he had 88 tickets, so ever 5 tickets was 1 prize.

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The number of tickets is calculated correctly and a correct procedure is used to determine the number of prizes; however, a calculation error ($88 \div 5 \neq 16$ R3) results in an incorrect solution. The response contains an incorrect solution but provides mathematically sound procedures.

GUIDE PAPER 6

52 Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

Answer _____**8**_____ prizes

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The work provides calculations for the number of prizes bought each month. A correct process of repeated subtraction is used to determine the solution; however, the calculations account for one ticket earned per book instead of two. The final addition is performed mentally. The response contains an incorrect solution but provides mathematically sound procedures.

GUIDE PAPER 7

52

Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

If you do $15 \div 5 = 3+$
$13 \div 5 = 2 \frac{3}{5} + 16 \div 5 = 3 \frac{1}{5} =$

$\begin{array}{r} 3 \\ + 2\frac{3}{5} \\ + 3\frac{1}{5} \\ \hline 8\frac{4}{5} \end{array}$

Answer $8\frac{4}{5}$ prizes

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. Although a correct process is applied to determine the solution, the work only accounts for one ticket per book. Additionally, the response reflects a lack of understanding that the number of prizes must be a whole number. The response addresses some elements of the task correctly but exhibits multiple flaws related to misunderstanding of important aspects of the task.

52

Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

```
  15          16
  13          15
  16          13
            _____
             44

2 ÷ 44 = 22 tickets
```

Answer ____4____ prizes

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The total number of books read is calculated correctly; however, the result is divided rather than multiplied by 2, and no work is provided to support the solution. The response addresses some elements of the task correctly but reaches an inadequate solution due to reasoning that is faulty and incomplete.

52

Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

```
   1
 ⊥ 15
   13
   16
 ⁤ 44
```

Answer __44__ prizes

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The total number of books read is correctly determined and the answer is misinterpreted as the number of prizes. The response addresses some elements of the task correctly but reaches an inadequate solution due to faulty reasoning.

GUIDE PAPER 10

52 Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

```
  15        13        16    1        32
 x 2       x 2       x 2   x5        30
  30        26        32    5        26
                                   + 5
                                    93
```

Answer __93__ prizes

Score Point 0 (out of 3 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although the number of tickets earned each month is correctly calculated, the work of adding 1 × 5 to the obtained answers shows no overall understanding.

52

Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

$$
\begin{array}{r}
15 \\
13 \\
16 \\
\hline
3,47
\end{array}
$$

Answer __347__ prizes

Score Point 0 (out of 3 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The number of books read each month is incorrectly determined and no other work is provided.

53 A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

Answer _____ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

Answer _____ oak trees

53

A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

$$
\begin{array}{r}
22 \\
\times\,48 \\
\hline
176 \\
88 \\
\hline
1056
\end{array}
$$

Or other valid process

Answer _____1056_____ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

Answer _____352_____ oak trees

53

A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

eel. type
of
352 of each
type of tree

$$\begin{array}{r} 1 \\ 22 \\ \times 48 \\ \hline 176 \\ +880 \\ \hline 1056 \end{array}$$

$$3\overline{)1056} = 352$$
$$\begin{array}{r} -9 \\ \hline 15 \\ -15 \\ \hline 06 \\ -6 \\ \hline 0 \end{array}$$

Answer ____1056____ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

352

Answer _____ oak trees

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The total number of trees is correctly calculated using a mathematically sound procedure. A correct solution for the total number of oak trees is provided. Note that students are not directed to show work for the total number of oak trees planted and, as per Scoring Policy #4, if students are not directed to show work, any work shown will not be scored. This applies to items that ask for work for one part and do not ask for work in another part.

53 A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

$$
\begin{array}{r}
\overset{\times}{4}\overset{1}{8} \\
\times 22 \\
\hline
96 \\
+960 \\
\hline
1056
\end{array}
$$

Answer ___1,056 ✓___ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

$$
\begin{array}{r}
300 \\
300 \\
+300 \\
\hline
900
\end{array}
$$

$$
\begin{array}{r}
352 \\
352 \\
+352 \\
\hline
1p56 ✓
\end{array}
$$

Answer ___352___ oak trees

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The total number of trees is correctly calculated and a correct solution for the total number of oak trees is provided.

GUIDE PAPER 3

53 A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

20   2

40 | 800 | +80 = 880
8 | 160 | +16 = 176
                      1,056

1,056

Answer _____ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

3   52

10 x 10) 1056   3 x 300
        900   3 x 2
                  3 x 50
          156
            6

352   128
      -150

Answer _____352_____ oak trees

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The total number of trees is correctly calculated and a correct solution for the total number of oak trees is provided.

GUIDE PAPER 4

53 A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

. 22 acres on land
. 48 trees per acre
? How many trees
did the farmer
plant in all?

Answer _____1,056_____ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

Answer _____356_____ oak trees

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The total number of trees is correctly calculated; however, the solution for the number of oak trees is incorrect. The response appropriately addresses most, but not all aspects of the task using a mathematically sound procedure.

GUIDE PAPER 5

53 A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

$$\begin{array}{r} {}^{1}48 \\ \times 22 \\ \hline 96 \\ {}^{1}96 \\ \hline 1{,}056 \end{array}$$

Answer ___1,056___ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

Answer _____ oak trees

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The total number of trees is correctly calculated; however, no solution for the number of oak trees is provided. The response appropriately addresses most, but not all aspects of the task using a mathematically sound procedure.

53 A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

$$\begin{array}{r} 2\overset{1}{\cancel{2}} \\ \times 48 \\ \hline 176 \\ +88 \\ \hline 1056 \end{array}$$

$$\begin{array}{r} \times 48 \\ \hline 188 \\ +4\,40 \\ \hline 528 \end{array}$$

Answer ___1,056___ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

$$\begin{array}{r} 48.0 \\ \times 5.5 \\ \hline 240.0 \\ +2,400.0 \\ \hline 2,640.0 \end{array}$$

Answer ___2,640___ oak trees

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The total number of trees is correctly calculated; however, an incorrect solution for the number of oak trees is provided. The response appropriately addresses most, but not all aspects of the task using a mathematically sound procedure. As per Scoring Policy #4, if students are not directed to show work, any work shown will not be scored.

53 A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

$$\begin{array}{r} \overset{1}{2}2 \\ \times 48 \\ \hline 176 \\ + 880 \\ \hline 956 \end{array}$$

Answer ___956___ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

Answer _____ oak trees

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. An appropriate process is applied to calculate the total number of trees; however, a calculation error ($176 + 880 \neq 956$) results in an incorrect solution. The answer for the number of oak trees is not provided. The response addresses some elements of the task correctly, but reflects a lack of essential understanding of the underlying mathematical concepts.

53

A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

$$\begin{array}{r} 48 \\ \times\, 22 \\ \hline 196 \\ +\,1680 \\ \hline \end{array}$$

Answer __1,776__ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

Answer __5711__ oak trees

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. An appropriate process is applied to calculate the total number of trees; however, a calculation error ($20 \times 48 \neq 1680$) results in an incorrect solution. The answer for the number of oak trees is incorrect (should be 592 using an incorrect answer for the total number of trees). The response addresses some elements of the task correctly, but exhibits multiple flaws related to misunderstanding of important aspects of the task.

GUIDE PAPER 9

53 A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

Answer __210__ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

Answer __70__ oak trees

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. An incorrect procedure is followed to determine the total number of trees. The result is used to correctly solve for the number of oak trees. The response addresses some elements of the task correctly but reaches an inadequate solution due to faulty reasoning.

53

A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

$$\begin{array}{r} 48 \\ \times\ 22 \\ \hline 96 \end{array}$$

Answer _____ 96 _____ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

$$\begin{array}{r} 3 \\ \times 3 \\ \hline 9 \end{array}$$

Answer _____ 9 _____ oak trees

Score Point 0 (out of 3 points)

Although a correct multiplication operation is shown, the work is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Both solutions are incorrect.

53

A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

$$
\begin{array}{r}
48 \\
22 \\
+ 3 \\
\hline
73
\end{array}
$$

Answer ___73___ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

$$
\begin{array}{r}
22 \\
3 \\
\hline
25
\end{array}
$$

Answer ___25___ oak trees

Score Point 0 (out of 3 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The work for the total number of trees is irrelevant and both solutions are incorrect.

54

The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

Answer _____ pounds

54 The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

Kim's purchase $6 \times \frac{2}{8} = \frac{12}{8} = 1\frac{4}{8}$

Seth's purchase $2 \times \frac{9}{8} = \frac{18}{8} = 2\frac{2}{8}$

          $\frac{18}{8} - \frac{12}{8} = \frac{6}{8} = \frac{3}{4}$

Or other valid process

Answer _____ $\frac{6}{8}$ _____ pounds

54

The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

$\frac{2}{8} \times 6 = x$

$x = 1\frac{4}{8}$

$\frac{9}{8} \times 2 = x$

$x = 2\frac{2}{8}$

$2\frac{2}{8}$
$- 1\frac{4}{8}$
———
$\frac{6}{8}$

Answer _____ $\frac{6}{8}$ _____ pounds

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The weight of each purchase is correctly calculated and the difference in weights is correctly determined using mathematically sound procedures.

GUIDE PAPER 2

The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

$$6 \times \frac{2}{8} = \frac{12}{8}$$

$$2 \times \frac{9}{8} = \frac{18}{8}$$

Answer $\frac{6}{8}$ pounds

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The weight of each purchase is correctly calculated and the difference in weights is correctly determined. The final subtraction is performed mentally and is acceptable for full credit.

GUIDE PAPER 3

54 The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

$1\frac{4}{8}$

$\frac{9}{8} + \frac{9}{8} = 2\frac{2}{8}$

$2\frac{2}{8} - 1\frac{4}{8} = \frac{6}{8}$

The diffrence bettwen Seths Salad and Kims Salad is $\frac{6}{8}$.

Answer ___$\frac{6}{8}$___ pounds

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The weight of each purchase is correctly calculated and the difference in weights is correctly determined. Although the work for the weight of Kim's purchase is not shown, holistically this response is sufficient to demonstrate a thorough understanding.

GUIDE PAPER 4

54

The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

$6+2=15$

$$\frac{2}{8} \times \frac{6}{1} = \frac{12}{8} \qquad \frac{9}{8} \times \frac{2}{1} = \frac{18}{8}$$

$\frac{18}{8}$

Answer _____ pounds

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The weight of each purchase is correctly calculated; however, the difference in weights is not addressed and the weight of Seth's purchase is provided as the solution. The response contains an incorrect solution but provides mathematically sound procedures and reflects some minor misunderstanding.

54 The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

$6 \times \frac{2}{8} = \frac{12}{8} = 1\frac{4}{8}$ Lb

$2 \times \frac{9}{8} = \frac{18}{8} = 2\frac{2}{8}$ Lb

$$2\frac{12}{8}\text{Lb}$$
$$-1\frac{4}{8}\text{Lb}$$
$$\frac{8}{8}\text{Lb}$$
$$1\text{Lb}$$

Answer _____1_____ *pounds*

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The weight of each purchase is correctly calculated; however, a calculation error is made when solving for the difference in weights. The response contains an incorrect solution but provides mathematically sound procedures.

GUIDE PAPER 6

54 The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

$\frac{2}{8} \times 6 = 1\frac{2}{8}$

$\frac{9}{8} \times 2 = 2\frac{2}{8}$

$1\frac{2}{8} + 2\frac{2}{8} = 3\frac{4}{8}$

Answer $3\frac{4}{8}$ pounds

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The weight of each purchase is correctly calculated; however, the answers are added rather than subtracted to determine the solution. A transcription error is made ($\frac{12}{8}$ is written as $1\frac{2}{8}$) when adding the two weights. The response appropriately addresses most, but not all aspects of the task using mathematically sound procedures.

GUIDE PAPER 7

The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

$$\frac{2}{8} \times 6 = \frac{12}{8} = 1\frac{1}{3} = \frac{32}{24}$$

Extra large = $1\frac{1}{8}$

$\times 2$

$2\frac{2}{8} = \frac{54}{24}$

$$\begin{array}{r} 54 \\ -32 \\ \hline 22 \end{array}$$

$$\frac{22}{24} = \frac{7}{8}$$

Answer __$\frac{7}{8}$__ pounds

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The weight of each purchase is correctly calculated; however, $^{12}/_8$ is incorrectly simplified to $1\frac{1}{3}$. Another error is made when simplifying the solution for the difference in weights ($^{22}/_{24} \neq \,^{7}/_8$). The response addresses some elements of the task correctly but reflects a lack of essential understanding of how to simplify fractions.

54 The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

$$\frac{2}{8} + \frac{2}{8} + \frac{2}{8} = \frac{6}{8} + \frac{6}{8}$$

$$\frac{12}{8}$$

$$\overline{8}$$

$$\frac{-12}{8} \quad \overline{4}$$

$$1\frac{4}{8} \text{ or } 1\frac{1}{2}$$

$$1\frac{2}{8}$$

$$\frac{18}{8}$$

$$\frac{8}{8}$$

$$\frac{10}{8}$$

$$\frac{8}{8}$$

Answer ___$\frac{2}{8}$___ pounds

GO ON

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The weight of Kim's purchase is correctly calculated. Although the work contains the correct value for Seth's purchase, calculations are not shown to support this answer and another incorrect answer is provided ($1\frac{2}{8}$) with limited work to support it. This incorrect result is used to determine the difference in the weights. The response addresses some elements of the task correctly but reaches an inadequate solution due to faulty and incomplete reasoning.

54

The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

$$\frac{2}{8} + \frac{2}{8} + \frac{2}{8} + \frac{2}{8} + \frac{2}{8} + \frac{2}{8} = \frac{12}{8}$$

$$1\frac{4}{8} \qquad 1\frac{4}{8} \qquad \frac{6}{8} + \frac{6}{8} = \frac{12}{8}$$

Answer _____3_____ pounds

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The weight of Kim's purchase is correctly calculated. The weight of Seth's purchase is not addressed, and an incorrect solution is provided for the difference in weights with no work to support the solution. The response addresses some elements of the task correctly but reaches an inadequate solution due to faulty and incomplete reasoning.

54 The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

Kim | Seth

$\frac{12}{8}$ | $\frac{54}{8}$

$\begin{array}{r} 54 \\ -12 \\ \hline 42 \end{array}$

Answer ___42___ pounds

Score Point 0 (out of 3 points)

Holistically, this response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although a correct value for Kim's purchase is shown, no work is provided to support this answer. The weight of Seth's purchase is incorrect, and it is not clear how the answer is obtained. The difference in the numerators of fractions is provided as the solution.

54

The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

Answer _____ pounds

Score Point 0 (out of 3 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although a correct solution is provided, it is not clear how it is obtained. The work is irrelevant.

55 Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

Answer $ _____

EXEMPLARY RESPONSE

55   Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

$f = \$2$

$n = 4 \times f = 4 \times 2 = \$8$

$p = n \div 2 = 8 \div 2 = \$4$ or

$p = f \times 2 = 2 \times 2 = \$4$

$Cost = f + p + n = 2 + 4 + 8 = \$14$

Or other valid process

Answer $ \underline{\hspace{1cm} 14 \hspace{1cm}}$

55

Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

notebooks: $8

$4 \times 2 = 8$

pencils : $4

$8 \div 2 = 4$

folders: $2

$$\begin{array}{r} \$8 \\ +\$4 \\ \$2 \\ \hline \$14 \end{array}$$

Answer $ __14__

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The costs of supplies are correctly calculated and added to determine the total cost. The response is complete and correct.

55 Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

$$\begin{array}{ccc} 4 & 2 & 2 \\ \underline{\times 2} & \underline{\times 2} & 8 \\ 8 & 4 & \underline{+4} \\ & & 14 \end{array}$$

Answer $ __14__

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The costs of supplies are correctly calculated and added to determine the total cost. The response is complete and correct.

55

Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

folder: cost $2 dollar
note book: cost: $8 dollar
Pencils: cost 4 dollar

$$+\begin{array}{r} 2 \\ 8 \\ 4 \\ \hline 14 \end{array}$$

Answer $ _____14_____

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The costs of supplies are correctly calculated and added to determine the total cost. The response contains sufficient mathematical work to receive full credit.

GUIDE PAPER 4

55 | Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

$$\begin{array}{r} 2 \\ \times 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline 16 \end{array}$$

$$\begin{array}{r} \$16.00 - \text{set of pencils} \\ \$8.00 - \text{note Book} \\ + \ \$2.00 - \text{folder} \\ \hline 26.00 - \text{total} \end{array}$$

Answer $ __26.00__

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The cost of a notebook is correctly calculated; however, the result is multiplied rather than divided by 2 to determine the cost of pencils. Individual costs are correctly added to determine the total cost. The response appropriately addresses most, but not all aspects of the task and reflects some minor misunderstanding of the underlying mathematical procedures.

GUIDE PAPER 5

55 Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

folder = 2 dollars
Notebook = 8 dollars
Pencils = 2 dollars
_____
12.

$4 \times 2 = 8$

Answer $ ___12___

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The cost of a notebook is correctly calculated; however, the cost of pencils is incorrect and no work is provided to show how it is obtained. Individual costs are correctly added to determine the total cost. The response appropriately addresses most but not all aspects of the task.

GUIDE PAPER 6

55 Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

$$\frac{P}{\$4} \quad \frac{f}{\$2} \quad \frac{N}{\$8}$$

$$4 \times 2 = 8$$
$$8 \div 2 = 4$$

$$\begin{array}{c} 8 \\ \times 4 \\ \hline 32 \end{array} \quad \begin{array}{c} 32 \\ \times 2 \\ \hline \$64 \end{array}$$

Answer $ ____64____

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The costs of supplies are correctly calculated; however, the answers are multiplied rather than added to determine the total cost. The response appropriately addresses most, but not all aspects of the task.

55

Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

for notebook
① 4 notebooks
   ×$2 each folder
   $8 total

for pencils
① $8 for each notebook
   +$12 for pencils
   $16 total

add
③ 16
   × 2
   $32

Answer $ 32

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The cost of a notebook is correctly calculated; however, the result is multiplied rather than divided by 2 to determine the cost of pencils. Additionally, the work reflects a lack of understanding of how to determine the total cost of supplies. The response addresses some elements of the task correctly but reaches an inadequate solution due to faulty reasoning.

55   Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

Did the work

$4 \times 2 = 8 \times 2 = 16$ \$ my head

Answer $ ___16___

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. Only the cost of a notebook is correctly calculated. The response addresses some elements of the task correctly but reaches an inadequate solution due to faulty and incomplete reasoning.

GUIDE PAPER 9

55 Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

$$\begin{array}{r} 2 \\ +4 \\ \hline \$8 \end{array} - \text{notebook}$$

I dont know!

Answer $_____

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The cost of a notebook is correctly calculated; however, no other work is provided. The response addresses some elements of the task correctly but reflects a lack of essential understanding of the underlying mathematical concepts.

GUIDE PAPER 10

<table>
<tr><td>55</td><td>Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.</td></tr>
</table>

- notebook costs 4 times as a folder
- Each folder cost $2
- A notebook costs 2 times as much as a set of pencils
- The total cost for 1folder, 1 noteboo k, and 1 set of pencil

$$4$$
$$2$$
$$2$$
$$1$$
$$+1$$
$$\overline{\$11}$$

Answer $ 11 .

Score Point 0 (out of 3 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The work is irrelevant and does not address the task.

55

Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs $2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

6 + 2 + 10 $18

Answer $ 18

Score Point 0 (out of 3 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although the numbers are correctly added, the costs are incorrect and no work is provided to show how the costs are obtained.