Directions: Answer the following question(s).

| 1 | MGSE5.NF.1 (DOK 1) |

Yolanda's hair ribbon is $\frac{5}{6}$ of a foot long. The ribbon was too long, so she cut $\frac{2}{3}$ of a foot off. How long is Yolanda's hair ribbon now?
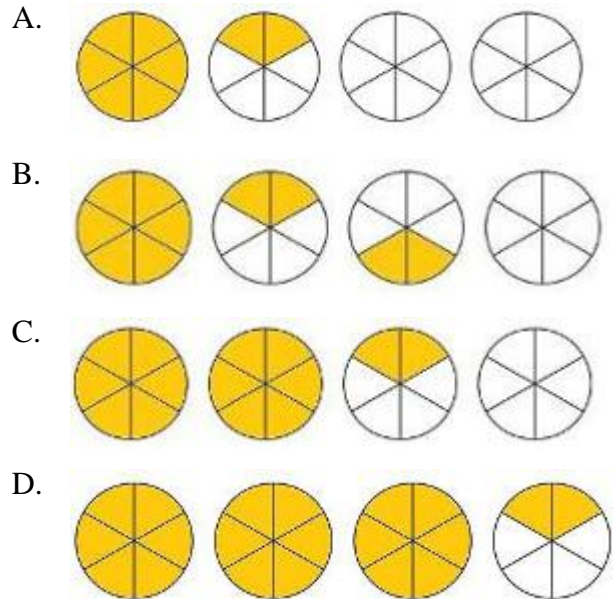
A. $\frac{1}{6}$ of a foot

B. $\frac{1}{3}$ of a foot

C. $\frac{3}{6}$ of a foot

D. $\frac{3}{3}$ of a foot

Master ID: 3037597 Revision: 3
Correct: A
Rubric: 1 Point(s)
Standards:
    MGSE5.NF.1

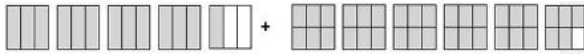| 2 | MGSE5.NF.1 (DOK 2) |

Miguel's mom made 4 taco pies for the family reunion. The family ate $2\frac{2}{6}$ of the pies the day of the reunion. How much pie is left over for Miguel and his family to eat the next night for dinner?

A.

B.

C.

D.

Master ID: 3037603 Revision: 6
Correct: C
Standards:
    MGSE5.NF.1

Directions: Answer the following question(s).

3 MGSE5.NF.1 (DOK 3)

Cyrus thinks the answer to the problem above is $9\frac{7}{6}$.

Jeff thinks the answer to the problem above is $10\frac{3}{18}$.

Bill thinks the answer to the problem above is $\frac{65}{6}$.

Who is correct? Justify your answer.

Master ID: 3037596 Revision: 4
Rubric: 2 Point(s)

MGSE5.NF.1: Add and subtract fractions and mixed numbers with unlike denominators by finding a common denominator and equivalent fractions to produce like denominators.

2 **2 Point Response:**

The student correctly states that both Cyrus and Jeff are correct, and the student provides a correct and complete explanation/ evidence of work for why Cyrus and Jeff are correct.

Correct Response & Explanation:

First addend:

There are 5 rectangular figures, each divided into thirds.

The amount shaded in the first addend is $4\frac{1}{3}$.

Second addend:

There are 6 rectangular figures, each divided into sixths.

The amount shaded in the second addend is $5\frac{5}{6}$.

$$4\frac{1}{3} + 5\frac{5}{6} = 4\frac{2}{6} + 5\frac{5}{6} = 9\frac{7}{6}$$

$$9\frac{7}{6} = 10\frac{1}{6}$$

Cyrus's answer is $9\frac{7}{6}$, which is correct.

Jeff's answer is $10\frac{3}{18}$. His answer is also correct

because an equivalent fraction to $10\frac{1}{6}$ is $10\frac{3}{18}$.

1 **1 Point Response:**

The student correctly states that both Cyrus and Jeff are correct, but the student provides an incomplete, unclear, or incorrect explanation/ evidence of work for why Cyrus and Jeff are correct.

0 **0 Point Response:**

The student incorrectly states which students are correct, and the student provides an incomplete, unclear, or incorrect explanation/ evidence of work for why Cyrus and Jeff are correct.

Standards:
    MGSE5.NF.1

Directions: Answer the following question(s).

| 4 | MGSE5.NF.2 (DOK 2) |

On Monday, $\frac{2}{5}$ of the students at Jackie Robinson Elementary School went to the science lab. On Tuesday, $\frac{1}{4}$ of the students went to the science lab. The rest of the students went to the science lab on Wednesday. What fraction of the students went to the science lab on Wednesday?

A. $\frac{7}{20}$

B. $\frac{3}{9}$

C. $\frac{13}{20}$

D. $\frac{6}{9}$

Master ID:	3037599 Revision:	6
Correct:	A	
Standards:		
MGSE5.NF.2		

| 5 | MGSE5.NF.2 (DOK 2) |

Brandon, Felicity, and Josie are sharing a pie. Brandon ate $\frac{1}{3}$ of the pie, Felicity ate $\frac{1}{4}$ of the pie, and Josie ate $\frac{1}{6}$ of the pie. What amount of pie did Brandon, Felicity, and Josie eat? Construct a model to justify your answer.

Directions: Answer the following question(s).

Master ID: 3037598 Revision: 5
Rubric: 2 Point(s)
MGSE5.NF.2 Solve word problems involving addition and subtraction of fractions, including cases of unlike denominators (e.g., by using visual fraction models or equations to represent the problem). Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result 2/5 + ½ = 3/7, by observing that 3/7 < ½.

2   **2 Point Response:**

The student correctly states that Brandon, Felicity, and Josie ate $\frac{9}{12}$, or $\frac{3}{4}$, of the pie. The student also provides a correct and complete model to show why $\frac{3}{4}$ is correct.

Correct Response:

Brandon ate $\frac{1}{3}$, Felicity ate $\frac{1}{4}$, and Josie ate $\frac{1}{6}$.

Determine a common denominator and then add the 3 fractions together, to get the amount of pie the 3 friends ate.

$$\frac{1}{3} + \frac{1}{4} + \frac{1}{6} = \frac{4}{12} + \frac{3}{12} + \frac{2}{12} = \frac{9}{12}$$

The friends ate $\frac{9}{12}$, simplified to $\frac{3}{4}$, of the pie.

Explanation/Model:

Review the student's model for accuracy. The student may choose to draw a circle, divide it into twelfths, and shade 4 parts for the amount Brandon ate, 3 parts for the amount Felicity ate, and 2 parts for the amount Josie ate.

1   **1 Point Response:**

The student correctly states that Brandon, Felicity, and Josie ate $\frac{9}{12}$, or $\frac{3}{4}$, of the pie. The student, though, provides an incorrect, incomplete, or unclear model to show why $\frac{3}{4}$ is correct.

0   **0 Point Response:**

The student incorrectly states the amount of pie the 3 friends ate, and the model is incomplete, unclear, incorrect, or not included.

Standards:
     MGSE5.NF.2

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6   MGSE5.NF.2 (DOK 3)

Lisa and Pam went to the candy store. Lisa bought $\frac{1}{4}$ of a bag of candy and Pam bought $\frac{3}{8}$ of a bag of candy.

Mark and Jose' also went to the candy store. Mark bought $\frac{2}{3}$ of a bag of candy and Jose' bought $\frac{1}{6}$ of a bag of candy. Which pair of friends was the closest to buying 1 whole bag of candy? Show your thinking in the space below.

Directions: Answer the following question(s).

Master ID: 3037600 Revision: 5
Rubric: 2 Point(s)

MGSE5.NF.2 Solve word problems involving addition and subtraction of fractions, including cases of unlike denominators (e.g., by using visual fraction models or equations to represent the problem). Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result 2/5 + ½ = 3/7, by observing that 3/7 < ½.

2   2 Point Response:

The student correctly states that the amount of candy that Mark and Jose' bought is the closest to 1 whole bag of candy. The student also provides a correct and complete explanation to show why the amount that Mark and Jose' bought is closest to 1 whole bag.

Correct Response:

Lisa bought $\frac{1}{4}$ of a bag of candy. Pam bought $\frac{3}{8}$ of a bag of candy.

$\frac{1}{4} + \frac{3}{8} = \frac{2}{8} + \frac{3}{8} = \frac{5}{8}$ bag of candy

Mark bought $\frac{2}{3}$ of a bag of candy. Jose' bought $\frac{1}{6}$ of a bag of candy.

$\frac{2}{3} + \frac{1}{6} = \frac{4}{6} + \frac{1}{6} = \frac{5}{6}$ bag of candy

   5 out of 6 is closer to 1, than 5 out of 8.

1   1 Point Response:

The student correctly states that the amount of candy that Mark and Jose' bought is closest to 1 whole bag of candy. The student, though, provides an incorrect, incomplete, or unclear explanation to show why the amount that Mark and Jose bought is closest to 1 whole bag.

0   0 Point Response:

The student responds incorrectly with the amount of candy that Mark and Jose' bought, and the student provides an incorrect, incomplete, or unclear explanation to show why the amount that Mark and Jose' bought is closest to 1 whole bag.

Standards:
    MGSE5.NF.2

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7 MGSE5.NF.3 (DOK 2)

A carpenter used exactly 25 feet of wood to make 9 shelves of equal length. Between how many feet did each shelf measure? Justify your answer.

A. $9 \div 25 = \frac{9}{25}$

So each shelf measured between 0 and 1 foot.

B. $25 \div 9 = \frac{25}{9} = 2\frac{7}{9}$

So each shelf measured between 2 and 3 feet.

C. $25 \div 9 = \frac{25}{9}$

So each shelf measured between 25 and 26 feet.

D. $25 \times 9 = 225$

So each shelf measured between 200 and 300 feet.

Master ID: 3037604 Revision: 5
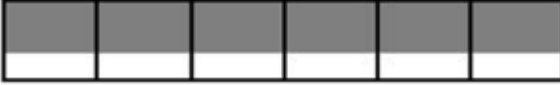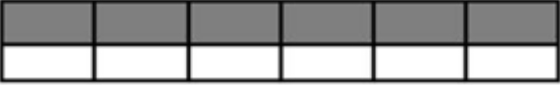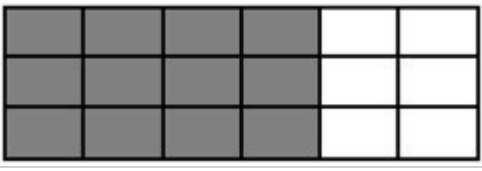Correct: **B**
Standards:
    MGSE5.NF
    MGSE5.NF.3

Directions: Answer the following question(s).

8 MGSE5.NF.4.b (DOK 2)

Daniel's bedroom is 6 yards long and $\frac{2}{3}$ yards wide. He wants to put carpet in his bedroom. How much carpet will Daniel need to buy in order to completely cover the floor of his bedroom?

A.

B.

C.

D.

Master ID: 3036319 Revision: 2

Correct: A
Rubric: 1 Point(s)
Standards:
    MGSE5.NF
    MGSE5.NF.4
    MGSE5.NF.4b

9 MGSE5.NF.5.a (DOK 2)

Without solving the following problem, what can you determine about the missing number?

$$\frac{2}{3} \times \square = 1\frac{8}{9}$$

A.   The missing factor has to be less than 1.

B.   The missing factor has to be less than $1\frac{8}{9}$.

C.   The missing factor creates equivalent fractions.

D.   The missing factor has to be greater than 1.

Master ID: 3037605 Revision: 6

Correct: D
Standards:
    MGSE5.NF
    MGSE5.NF.5
    MGSE5.NF.5a

Directions: Answer the following question(s).

10   MGSE5.NF.5b (DOK 3)

If you multiply $\frac{4}{3}$ and any whole number greater than one, will the product will be greater than or less than $\frac{4}{3}$? Justify your reasoning.

Master ID: 3037606 Revision: 4

Rubric: 2 Point(s)

MGSE5.NF.5b This standard asks students to examine how numbers change when we multiply by fractions. Students should have ample opportunities to examine both cases in the standard: a) when multiplying by a fraction greater than 1, the number increases and b) when multiplying by a fraction less the one, the number decreases. This standard should be explored and discussed while students are working with MGSE5.NF.4, and should not be taught in isolation.

2   **2 Point Response:**

The student correctly states that the product will be greater than $\frac{4}{3}$, and the student provides a correct and complete explanation to demonstrate why "greater than" is correct.

Rationale/Explanation:

The student may provide a few examples of multiplying $\frac{4}{3}$ by a whole number greater than 1, to show that the product is larger than $\frac{4}{3}$, or $1\frac{1}{3}$.

For example, $\frac{4}{3} \times 2 = \frac{8}{3} = 2\frac{2}{3}$

Also, $\frac{4}{3} \times 4 = \frac{16}{3} = 5\frac{1}{3}$

Multiplying will always yield a higher product because multiplying is repeated addition. One is adding on to a number to produce a greater number.

1   **1 Point Response:**

The student correctly states that the product will be greater than $\frac{4}{3}$, but the student provides an incomplete, unclear, or incorrect explanation to demonstrate why "greater than" is correct.

0   **0 Point Response:**

The student responds incorrectly, and the explanation is incomplete, unclear, incorrect, or not included for why "greater than" is correct.

Standards:
     MGSE5.NF.5b

Directions: Answer the following question(s).

11 MGSE5.NF.6.b. (DOK 2)

Mrs. Lewis is making a cake for her daughter's birthday party. She realizes that only $\frac{3}{4}$ of the friends are coming to the birthday party, so she needs to make a smaller cake. The original recipe calls for $2\frac{1}{4}$ cups of flour. If she bakes a cake that is $\frac{3}{4}$ smaller, how much flour will she need?

A. $\frac{3}{4}$ cups of flour

B. $2\frac{3}{4}$ cups of flour

C. $2\frac{3}{16}$ cups of flour

D. $1\frac{11}{16}$ cups of flour

Master ID:	3037618 Revision:	5
Correct:	D	
Standards:		
MGSE5.NF.6		

12 MGSE5.NF.7.b (DOK 2)

Mr. Fresco wrote the following problem on the board for his students to solve:

"**9** divided by $\frac{1}{3}$ = _____ "

Doug thinks the correct answer is 27 because $\frac{1}{3} \times 9 = 27$, but Jessica thinks the correct answer is 27 because $27 \times \frac{1}{3} = 9$. Mr. Fresco is pleased to see the students debating the correct answer, but he wants the students to provide more evidence in their justifications. Choose the correct answer below.

A. The correct answer is **27** because $\frac{1}{3} \times 9 = 27$

B. The correct answer is **27** because $27 \times \frac{1}{3} = 9$

C. The correct answer is $\frac{1}{3}$ because $\frac{1}{3} \times 9 = \frac{9}{27}$, and when you simplify this fraction, it will be $\frac{1}{3}$.

D. The correct answer is **3** because $\frac{1}{3} \times 9 = \frac{9}{3}$, and when you turn it into a mixed number, it will be 3 wholes.
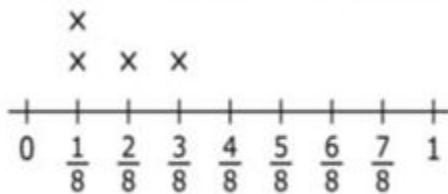
Master ID:	3037607 Revision:	2
Correct:	B	
Rubric:	1 Point(s)	
Standards:		
MGSE5.NF		
MGSE5.NF.7		
MGSE5.NF.7b		

Directions: Answer the following question(s).

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13 MGSE5.MD.2 (DOK 2)

Judy conducted an experiment. She put a total of $2\frac{1}{4}$ cups of water into an empty container. Then, Judy recorded the amount of water that evaporated from the container each day for four days. The line plot below shows the amount of water that evaporated from the container on each of the four days.

Amount of Water That Evaporated Each Day (cups)

Each × represents 1 day.

What mixed number represents the amount of water left in the container at the end of the fourth day?
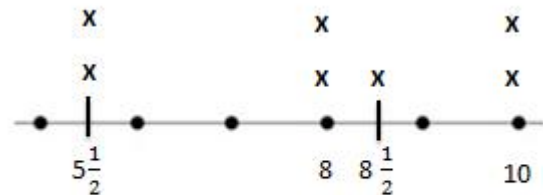
A. $1\frac{1}{2}$

B. $1\frac{1}{8}$

C. $1\frac{3}{8}$

D. $1\frac{1}{10}$

Master ID:	3038225 Revision:	3
Correct:	C	
Rubric:	1 Point(s)	
Standards:		
MGSE5.MD.2		

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14 MGSE5.MD.2 (DOK 2)

Sam made a line plot to show how far he rode his bicycle each day last week. How many miles did Sam ride altogether last week?

Sam's Distance Each Day
(x = days)

Distance in miles

A. $10\frac{1}{2}$ mi.

B. 32 mi.

C. 44 mi.

D. $55\frac{1}{2}$ mi.

Master ID:	3037602 Revision:	6
Correct:	D	
Standards:		
MGSE5.MD.2		

Directions: Answer the following question(s).

15   MGSE5.MD.2 (DOK 3)

The National Honor Society (NHS) and Technology Club sold roses for Valentine's Day to raise money for new computers. Use the data below to construct two line plots, one representing the NHS data and one representing the Technology Club data. Based on the line plots, which club was more successful selling roses? Justify your answer.

NHS

Roses	9	10	11	12	13	14	15	16	17
Students	3	0	1	2	2	3	5	6	1

Technology Club

Roses	9	10	11	12	13	14	15	16	17
Students	2	3	4	5	4	4	3	0	0

Master ID: 3038137 Revision: 5
Rubric: 4 Point(s)

MGSE5.MD.2: Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots.

4   **4 Point Response:**

The student completely and accurately creates a line plot for the number of roses that NHS sold and those that the Technology Club sold. The student also correctly identifies the club that sold the most roses, and the student provides an accurate explanation/ complete evidence of work for why that club successfully sold more roses.

Correct Responses:

The line plot should show the following information:

NHS - 318 roses sold

- 3 students sold 9 roses each (27 roses sold)
- 0 students sold 10 roses each (0 roses sold)
- 1 student sold 11 roses each (11 roses sold)
- 2 students sold 12 roses each (24 roses sold)
- 2 students sold 13 roses each (26 roses sold)
- 3 students sold 14 roses each (42 roses sold)
- 5 students sold 15 roses each (75 roses sold)
- 6 students sold 16 roses each (96 roses sold)
- 1 student sold 17 roses (17 roses sold)

Technology Club - 335 roses sold

- 2 students sold 9 roses each (18 roses sold)
- 3 students sold 10 roses each (30 roses sold)
- 4 student sold 11 roses each (44 roses sold)
- 5 students sold 12 roses each (60 roses sold)
- 4 students sold 13 roses each (52 roses sold)
- 4 students sold 14 roses each (56 roses sold)
- 3 students sold 15 roses each (75 roses sold)
- 0 students sold 16 roses (0 roses sold)
- 0 student sold 17 roses (0 roses sold)

The Technology Club sold more roses than NHS.

Evidence/Rationale: Add the number of roses the students sold in each club, according to the line plots created.

3   **3 Point Response:**

The student completely and accurately creates a line plot for the number of roses that NHS sold and those that the Technology Club sold. The student also correctly identifies the club that sold the most roses, but the student provides an incomplete, unclear, or incorrect explanation/ evidence of work for why that club successfully sold more roses.

Directions: Answer the following question(s).

2   **2 Point Response:**

The student creates a line plot for the number of roses that NHS sold and those that the Technology Club sold, with a few inaccuracies. The student also correctly identifies the club that sold the most roses, but the student provides an incomplete, unclear, or incorrect explanation/ evidence of work for why that club successfully sold more roses.

1   **1 Point Response:**

The student creates a line plot for the number of roses that NHS sold and those that the Technology Club sold, with a few inaccuracies. The student does not, though, correctly identify the club that sold the most roses, and the student provides an incomplete, unclear, or incorrect explanation/evidence of work for why that club successfully sold more roses.

0   **0 Point Response:**

The student does not completely or accurately create a line plot for the number of roses that NHS sold and those that the Technology Club sold. Additionally, the student does not correctly identify the club that sold the most roses, and the student provides an incomplete, unclear, or incorrect explanation/evidence of work for why that club successfully sold more roses.

Standards:

     MGSE5.MD.2