Day 1

1. Juan’s mother gave him a recipe for trail mix.

\[
\begin{align*}
\frac{3}{4} & \text{ cup cereal} \\
\frac{2}{3} & \text{ cup almonds} \\
\frac{1}{2} & \text{ cup peanuts} \\
\frac{1}{2} & \text{ cup raisins}
\end{align*}
\]

Order the ingredients used in the recipe from least to greatest.

2. Dillon’s dad sells golf balls online. He sells \( \frac{4}{5} \) of the golf balls he has in his attic. How can \( \frac{4}{5} \) be written as a sum of fractions? Mark all that apply.

a. \( \frac{1}{5} + \frac{1}{5} + \frac{2}{5} \)
b. \( \frac{1}{5} + \frac{1}{5} + \frac{1}{5} \)
c. \( \frac{2}{5} + \frac{2}{5} + \frac{1}{5} \)
d. \( \frac{2}{5} + \frac{2}{5} + \frac{1}{5} \)
e. \( \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} \)
f. \( \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} \)

3. Draw the next term of the pattern.

Day 2

4. Mrs. Bennett wants to buy carpeting for her living room and dining room.

Explain how she can find the amount of carpet she needs to cover the floor in both rooms. Then find the amount of carpet she will need.

5. Decide whether each expression is equal to \( 5 \times \frac{2}{4} \).

Use the table to respond by marking the correct answer.

<table>
<thead>
<tr>
<th>Expression</th>
<th>Equal to ( 5 \times \frac{2}{4} )</th>
<th>Not Equal to ( 5 \times \frac{2}{4} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( 2 \times \frac{1}{20} )</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>( 4 \times \frac{2}{5} )</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>( 10 \times \frac{1}{4} )</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
6. Select all expressions that are equal to 300.
   a. 180 ÷ 9
   b. 1,200 ÷ 4
   c. 2,100 ÷ 7
   d. 2,400 ÷ 8
   e. 3,000 ÷ 3
   f. 9,000 ÷ 3

7. Look at the number line. Write the missing fractions.

8. Mindi planted beans in 4 / 10 of her garden and peas in 5 / 10 of her garden. What fraction of the garden is filled with beans and peas?

9. Dylan has 200 marbles. If Dylan has 10 times as many marbles as Robert, write an equation that shows how many marbles Robert has. Use r to represent the number of marbles Robert has.
   Equation: 

10. Josh and Celia each created fraction models that are divided into equal-sized sections. The models are shaded to represent a fraction.

   Josh divided his model into 6 equal sections, and shaded 2 sections.
   Celia divided her model into 4 equal sections, and shaded 2 sections.

Part A. Write the fraction for each model.
   Josh:  Celia: 

Part B. Whose fraction model is greater?

Part C. Explain how you can tell whose fraction is greater.

_____________________________________
_____________________________________
_____________________________________
_____________________________________
_____________________________________
_____________________________________
_____________________________________
_____________________________________

Compiled by the BCPS Mathematics, Science & Gifted Department
Day 5

11. The number of people who attended a festival, rounded to the nearest hundred thousand, was 300,000. Which could be the exact number of people who attended the festival?
   a. 351,213
   b. 249,899
   c. 252,348
   d. 389,001

12. Enter the unknown number that makes the equation true.
   \[ 36 \times 94 = 2700 + \square + 540 + 24 \]

13. An expression is shown.
   \[ 7 \times \square = \frac{7}{10} \]
   What is the value of the missing number?

   [Blank]

14. Tanya travels every year for work. She travelled 52,829 kilometers last year. She travelled 36,466 kilometers this year. What is the total number of kilometers Tanya travelled last year and this year? Enter your answer in the response box.

   [Blank] kilometers

15. The club’s indoor pool is a rectangular shape. Marco is laying tile around the pool to create a walkway.

   ![Diagram of pool and walkway]

   Part A: What is the area of the pool?

   [Blank]

   Part B: What is the combined area of the pool and the walkway? Show your work?

   [Blank]

   Part C: How many square meters of tile will Marco need for the walkway? Explain how you found your answer.

   [Blank]

   [Blank]

   [Blank]
16. Lamar’s mom sells sports equipment online. She sold $\frac{9}{10}$ of the sports equipment she had in stock. How can $\frac{9}{10}$ be written as a sum of fractions? Mark all that apply.

a. $\frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{2}{10}$

b. $\frac{3}{10} + \frac{2}{10} + \frac{3}{10} + \frac{1}{10}$

c. $\frac{2}{10} + \frac{2}{10} + \frac{2}{10}$

d. $\frac{4}{10} + \frac{1}{10} + \frac{1}{10} + \frac{3}{10}$

e. $\frac{4}{10} + \frac{3}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$

f. $\frac{2}{10} + \frac{2}{10} + \frac{2}{10} + \frac{3}{10}$

17. Jack has a jar of wax that is $\frac{1}{6}$ full. His dad gives him a second jar of wax that is $\frac{4}{6}$ full. Use the fractions to write an equation to find the total amount of wax Jack has.

18. Donna buys some fabric to make placemats. She uses 9 different types of fabric to make her design. She needs $\frac{1}{2}$ yard of each type of fabric. Complete the following equation, by writing the number in the box to make the statement true.

$$\frac{9}{5} = \square \times \frac{1}{5}$$

19. In the computer game Big City Building, it costs 9,328 points to build each apartment building. What is the cost to build 5 apartment buildings? Show your work.
FSA Warm-ups Grade 4

Day 7

20. Select all the ways to show 403,871.
   a. four hundred three thousand, eight hundred one
   b. four hundred three thousand, eight hundred seventy-one
   c. four hundred three thousand, seventy-one
   d. 400,000 + 38,000 + 800 + 70 + 1
   e. 400,000 + 3,000 + 800 + 70 + 1
   f. 4 hundred thousand + 3 thousands + 8 hundreds + 7 tens + 1 one

21. New Mexico has an area of 121,298 square miles. California has an area of 155,779 square miles. How much greater is the area, in square miles, of California than the area of New Mexico? Show your work and explain how you know the answer is reasonable.

22. Enter the length of the ribbon in millimeters.

![Ribbon Scale]

millimeters

Metric Conversions
1 meter = 100 centimeters
1 meter = 1000 millimeters
1 kilometer = 1000 meters
1 liter = 1000 milliliters
1 gram = 1000 milligrams
1 kilogram = 1000 grams

23. If the first number in a pattern is 40, and the rule is *add 7*, what is the fourth number in the pattern?

   How can you check your answer?

24. Put the letter under each figure in the box that has the correct number of lines of symmetry.

   ![Figure Options]

25. Enter the sum.

   
   \[
   4325 \\
   +654
   \]

   

Compiled by the BCPS Mathematics, Science & Gifted Department
26. Craig is tiling the floor of his bathroom. He wants \( \frac{1}{4} \) of the tiles to be brown. What other fractions can represent the part of the tiles that will be brown? Shade the models to show your work.

27. Enter the missing digit to complete the subtraction problem.

\[
\begin{align*}
393,462 \\
-12\square.937 \\
\hline \\
265,525
\end{align*}
\]

28. Renee drew the figure shown. Select all the statements that are true.

a. The measure of a straight angle is \( 180^\circ \).
b. To find the measure of angle \( x \), Renee can subtract \( 75^\circ \) from \( 180^\circ \).
c. The measure of angle \( x \) is \( 115^\circ \).
d. The measure of angle \( x \) is \( 105^\circ \).
e. The measure of angle \( x \) is \( 150^\circ \).

29. What is 450 divided by 9?
34. Cindy has two jars of paint. One jar is $\frac{3}{8}$ full. The other jar is $\frac{2}{8}$ full. Use the fractions to write an equation that shows the amount of paint Cindy has.

\[
\frac{3}{8} + \frac{2}{8} = \frac{5}{8}
\]

35. Ingrid is making a toy car. The toy car is \(\frac{5}{10}\) meter high without the roof. The roof is \(\frac{18}{100}\) meter high. What is the height of the toy car with the roof? Choose a number from each column to complete the equation.

\[
\frac{5}{10} + \frac{18}{100} = \frac{68}{100}
\]
39. Select all the fractions that make this inequality true.

\[ 2 \frac{1}{8} > \Box + 1 + \frac{1}{8} \]

a. \( \frac{1}{8} \)

b. \( \frac{4}{8} \)

c. \( \frac{7}{8} \)

d. \( \frac{10}{8} \)

e. \( \frac{16}{8} \)

40. Match the equation with the property used.

\[ \frac{3}{4} + \left[ \frac{2}{4} + \frac{1}{4} \right] = \frac{3}{4} + \frac{2}{4} + \frac{1}{4} \]

* Commutative Property

\[ \left( \frac{4}{8} + \frac{1}{8} \right) + \frac{7}{8} = \frac{4}{8} + \left[ \frac{1}{8} + \frac{7}{8} \right] \]

* Associative Property

Equation:

Leah’s dog weighs \( \underline{\text{pounds}} \).

Darlene’s dog weighs \( \underline{\text{pounds}} \).

42. Suki rode her bike \( \frac{4}{5} \) mile. Claire rode her bike \( \frac{1}{3} \) mile. They want to compare how far they each rode their bikes. Make the statement below true.

Suki rode her bike a longer distance than Claire.

Explain your answer:

__________________________

__________________________

__________________________

43. Circle the choice that completes the statement.

10,000 less than 24,576 is \(

\begin{array}{c}
\text{equal to} \\
\text{greater than} \\
\text{1,000 less than} \\
\text{less than}
\end{array}

\)

44. In Figure A, \( \frac{4}{12} \) is shaded.

Write another fraction equivalent to \( \frac{4}{12} \).
Day 13

45. Write one fraction in each box to create two true comparisons.

\[
\frac{1}{2} > \frac{3}{5} < \frac{5}{8}
\]

46. Use a protractor to find the measure of each angle. Write each angle and its measure in a box ordered by the measure of the angles from least to greatest.

47. Justin lives \(4 \frac{3}{5}\) miles from his grandfather’s house. Write the mixed number as a fraction greater than 1.

\[
4 \frac{3}{5} = \frac{23}{5}
\]

48. Select the category of measure for each angle.

<table>
<thead>
<tr>
<th>Angle</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\angle A)</td>
<td>(90^\circ)</td>
</tr>
<tr>
<td>(\angle B)</td>
<td>(120^\circ)</td>
</tr>
<tr>
<td>(\angle C)</td>
<td>(150^\circ)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Less than 90°</th>
<th>Between 90° and 180°</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\angle A)</td>
<td>(\angle B)</td>
</tr>
<tr>
<td>(\angle C)</td>
<td>(\angle D)</td>
</tr>
</tbody>
</table>

49. Write the letter of the triangle under its correct classification.

<table>
<thead>
<tr>
<th>Triangle</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\triangle A)</td>
<td>Acute Triangle</td>
</tr>
<tr>
<td>(\triangle B)</td>
<td>Obtuse Triangle</td>
</tr>
<tr>
<td>(\triangle C)</td>
<td>Right Triangle</td>
</tr>
<tr>
<td>(\triangle D)</td>
<td></td>
</tr>
<tr>
<td>(\triangle E)</td>
<td></td>
</tr>
<tr>
<td>(\triangle F)</td>
<td></td>
</tr>
</tbody>
</table>
Day 14

50. A pattern is generated using this rule:

Start with the number 7 as the first term and add 4.

Write numbers into the boxes to complete the table.

<table>
<thead>
<tr>
<th>Term</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>7</td>
</tr>
<tr>
<td>Second</td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td></td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td></td>
</tr>
</tbody>
</table>

51. Select the statement that represents \( 45 = 5 \times 9 \)

a. Pat collected 5 cars one year and 9 cars the next year.
b. Pat collected 5 cars each year for 9 years.
c. Pat had a collection of 45 cars and gave 9 away.
d. Pat had a collection of 5 cars and increases the number of cars by 45.

52. Write the following fractions in order **least to greatest**: \( \frac{1}{2}, \frac{1}{8}, \frac{1}{3} \). Justify your answer.

\[
\begin{array}{c}
\frac{1}{2} \\
\frac{1}{8} \\
\frac{1}{3}
\end{array}
\]

53. Mr. Tuyen uses \( \frac{5}{8} \) of a tank of gas each week to drive to and from his job. How many tanks of gas does Mr. Tuyen use in 5 weeks? Write your answer two different ways.

Mr. Tuyen uses \[ \underline{\hspace{2cm}} \] or \[ \underline{\hspace{2cm}} \] tanks of gas.

54. Select the multiples of 8 shown in the chart.

<table>
<thead>
<tr>
<th>( \times )</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>12</td>
<td>18</td>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>14</td>
<td>21</td>
<td>28</td>
<td>35</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>16</td>
<td>24</td>
<td>32</td>
<td>40</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>18</td>
<td>27</td>
<td>36</td>
<td>45</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
</tr>
</tbody>
</table>

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55. A kennel is moving 160 dogs to a new facility. Each dog has its own crate. The facility manager rents 17 trucks. Each truck holds 9 dogs in their crates.

**Part A**
Write a division equation that can be used to find the number of trucks needed to carry the dogs in their crates. Then solve.

**Part B**
What does the remainder mean in the context of the problem?

**Part C**
How can you use your answer to determine if the facility manager rented enough trucks? Explain.

56. A store owner needs a rug with an area of at least 420 square feet. Select all of the possible sizes of rugs the store owner could choose.

a. 70 feet x 6 feet
b. 60 feet x 7 feet
c. 40 feet x 10 feet
d. 20 feet x 21 feet
e. 4 feet x 20 feet

57. Chaz needs $4.77 for new batteries. He has $3. Does he have enough money to buy new batteries? If not, how much more money does he need to buy the batteries?

58. How many times larger is the value 250,000 than 250?

59. Which numbers round to 4,100 when rounded to the nearest hundred? Mark all that apply.

a. 4,008
b. 4,140
c. 4,060
d. 4,109
e. 4,049
60. Which statement is true about the following equation?

\[ 72 - 9 = 7 + n \]

a. The value of \( n \) is seven more than 72.
b. The value of \( n \) is seven less than 72.
c. The value of \( n \) is sixteen more than 72.
d. The value of \( n \) is sixteen less than 72.

61. Write the word that describes each part of Figure A written below.

62. Select all numbers that could represent the model.

63. Use this table for Part A and Part B

<table>
<thead>
<tr>
<th>Age In years</th>
<th>Population</th>
<th>Age In years</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5</td>
<td>35,010</td>
<td>20 to 34</td>
<td>115,279</td>
</tr>
<tr>
<td>5 to 9</td>
<td>31,406</td>
<td>35 to 49</td>
<td>92,630</td>
</tr>
<tr>
<td>10 to 14</td>
<td>30,263</td>
<td>50 to 64</td>
<td>79,271</td>
</tr>
<tr>
<td>15 to 19</td>
<td>34,219</td>
<td>65 and over</td>
<td>49,420</td>
</tr>
</tbody>
</table>

**Part A:** How many children are under 10 years old? Show your work

**Part B:** How many people are between the ages of 20 and 49? Show your work.
64. Scott is reading a book that has 172 pages. Melanie is reading a book that has three times as many pages as Scott’s book.

How many pages does Melanie’s book have? Select all of the equations that represent this scenario.

a. \( 172 \div 3 = \square \)
b. \( 172 \times 3 = \square \)
c. \( \square \div 172 = 3 \)
d. \( 3 \times \square = 172 \)
e. \( \square \div 3 = 172 \)
f. \( 172 \div \square = 3 \)

65. Each day, Tally’s baby sister eats \( \frac{1}{4} \) cup of rice cereal in the morning and \( \frac{1}{4} \) cup of rice cereal in the afternoon. How long will it take Tally’s sister to eat 2 cups of rice cereal?

a. 1 day  
b. 2 days  
c. 3 days  
d. 4 days

66. Wendy is making potato salad for a picnic. One sack of potatoes weighs 14 pounds. What is the weight of a sack of potatoes in ounces?

1 pound = 16 ounces
Day 19

69. Shade the model to show \( \frac{52}{100} \), then write the mixed number in decimal form.

70. Select all of the expressions that equal \( \frac{5}{8} \).
   a. \( \frac{2}{8} + \frac{3}{8} \)
   b. \( \frac{6}{8} - \frac{1}{8} \)
   c. \( \frac{7}{8} - \frac{4}{8} + \frac{3}{8} \)
   d. \( \frac{1}{8} + \frac{3}{8} + \frac{1}{8} \)
   e. \( \frac{7}{8} - \frac{2}{8} - \frac{1}{8} \)

71. Draw lines to match equivalent time intervals. Items may be matched more than once or not at all.

72. Classify the figure. Select all that apply.
   a. quadrilateral
   b. trapezoid
   c. parallelogram
   d. rectangle
   e. rhombus
   f. square

73. Find the product of 3562 and 4.
Day 20

74. Select all the expressions that have a product of 720.
   a. 72 x 12
   b. (3 x 6) x (8 x 10)
   c. (9 x 10) x (2 x 4)
   d. 80 x 90
   e. 24 x 30

75. After selling some old books and toys, Gwen and her brother Max had 5 one-dollar bills, 6 quarters, and 8 dimes.

**Part A:** What is the total amount of money Gwen and Max earned? Explain.

_____________________________________
_____________________________________
_____________________________________
_____________________________________

**Part B:** Max and Gwen agreed to divide the money equally. Max said that he and Gwen cannot get equal amounts of money because 5 one-dollar bills cannot be divided evenly. Do you agree with Max? Explain.

_____________________________________
_____________________________________
_____________________________________
_____________________________________

**Part C:** How much will each person get?

$_

76. Select all of the objects that are approximately one inch long.
   a. A new pencil
   b. A textbook
   c. A paperclip
   d. A 25-cent coin
   e. A baseball bat
77. Select all the expressions that have a value of 240.
   a. \(1,200 \div 2\)
   b. \(1,920 \div 8\)
   c. \(2,400 \div 10\)
   d. \(2,600 \div 4\)
   e. \(4,000 \div 6\)
   f. \(4,800 \div 8\)

78. There are 3 new seats in each row in a school auditorium. There are 15 rows in the auditorium. Each new seat costs $74. What is the cost for the new seats? Explain how you found your answer.

    _______________________________________
    _______________________________________
    _______________________________________
    _______________________________________
    _______________________________________

    \[\text{dollars}\]

79. Duke has 13 times as many model cars as Guy. Guy has 6 model cars. Select all expressions that show how many cars Duke has.
   a. \(6 \times 13\)
   b. \(13(13 + 6)\)
   c. \(6 + 13\)
   d. \(13 + 6\)
   e. \(13(6)\)

80. Select a statement that explains how the values of the numbers 420 and 4,200 are different.
   a. 4,200 is 1,000 times as large as 420
   b. 4,200 is 100 times as large as 420
   c. 4,200 is 10 times as large as 420
   d. 4,200 is 1 time as large as 420
Day 22

81. Ramon is having some friends over after a baseball game. Ramon’s job is to make a vegetable dip. The ingredients for the recipe are given below:

<table>
<thead>
<tr>
<th>Ingredients in Vegetable Dip</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4 cup parsley</td>
</tr>
<tr>
<td>5/8 cup buttermilk</td>
</tr>
<tr>
<td>1/3 cup dill</td>
</tr>
<tr>
<td>1/2 cup cream cheese</td>
</tr>
<tr>
<td>6/8 cup scallions</td>
</tr>
<tr>
<td>1/12 cup lemon juice</td>
</tr>
</tbody>
</table>

Part A

Does Ramon use a greater amount of buttermilk or cream cheese? Explain.

_____________________________________
_____________________________________
_____________________________________
_____________________________________
_____________________________________

Part B

Ramon says that he needs the same amount of two different ingredients. Is he correct? Support your answer with information from the problem.

_____________________________________
_____________________________________
_____________________________________
_____________________________________
_____________________________________

Day 23

82. Select all the statements that are true.

- \( \frac{4}{10} = 0.04 \)
- \( \frac{8}{10} = 0.80 \)
- \( \frac{6}{100} = 0.60 \)
- \( \frac{9}{100} = 0.09 \)
- \( \frac{17}{100} = 0.17 \)

83. Michelle eats \( \frac{4}{6} \) of a bag of crackers. Carolyn eats \( \frac{5}{6} \) bag of crackers.

Part A

Shade the spaces on the model to show how many bags of crackers Michelle and Carolyn eat together.

Part B

Circle all the answers that show the total number of bags of crackers Michelle and Carolyn eat together. Show your work.

Part B: \( \frac{9}{12} \)  \( \frac{13}{6} \)  \( \frac{1}{6} \)  \( \frac{13}{12} \)  \( \frac{11}{2} \)
Day 24

84. Write the value of the digit 5 for each of the following numbers.

36,458
375,123
18,005
52,789

85. Kayla wrote down a decimal number that is greater than 0.65 but less than 0.71. Select all numbers Kayla could have written?

☐ 0.56
☐ 0.59
☐ 0.67
☐ 0.70
☐ 0.71

86. Enter the missing digit to complete the addition statement.

\[
\begin{array}{c}
26,\square54 \\
18,899 \\
+12,351 \\
\hline
58,004
\end{array}
\]

87. Andre has 13 marbles. Cornel has 4 times as many marbles as Andre. Write an equation to solve for the number of marbles, \(c\), Cornel has. Then solve.

Equation:

Solution:

88. Which phrase represents 436 in word form?

a. Four hundred six
b. Four hundred thirty
c. Four hundred and thirty-six
d. Four hundred thirty-six

Day 25

89. A painter mixed \(\frac{1}{4}\) quart of red paint with \(\frac{3}{4}\) of blue paint to make purple paint. How much purple paint did the painter make?

\[\square\]

90. Select all number for the \(\square\) that will make the following statement true.

\[807,058 > \square\]

a. 870,508
b. 870,058
c. 807,508
d. 807,085
e. 805,058
f. 800,758

91. Select True or False for each comparison.

<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 hundreds + 4 tens &gt; 50 + 400</td>
<td>☐</td>
</tr>
<tr>
<td>524 &lt; 50 + 200 + 4</td>
<td>☐</td>
</tr>
<tr>
<td>50 tens + 20 ones = 520</td>
<td>☐</td>
</tr>
</tbody>
</table>

92. Rachel is baking cookies. She needs \(\frac{1}{4}\) cup of oil. She notices that her measuring devices are only marked in ounces, not cups.

How many ounces of oil will Rachel need?

\[\square\]

[1 cup = 8 ounces]
93. There were 13,501 visitors to a museum in June. What is this number rounded to the nearest ten thousand?

Explain how you rounded.

_____________________________________
_____________________________________
_____________________________________

94. Rita is making chili. The recipe calls for \( \frac{2}{3} \) cups of tomatoes. How many cups of tomatoes, written as a fraction greater than 1, are used in the recipe?

\[ \text{cups} \]

96. Shelly uses a scoop to fill a container with flour. The scoop holds \( \frac{3}{5} \) cup of flour. If Shelly uses 12 scoops of flour to fill the container, how many cups of flour does she use?

\[ \text{cups} \]

95. Select >, < or = to complete a true statement about each pair of fractions.

\[ \frac{4}{3} \quad \square \quad \frac{6}{5} \]

\[ \frac{3}{2} \quad \square \quad \frac{8}{3} \]

\[ \frac{3}{2} \quad \square \quad \frac{7}{4} \]
98. Luke lives 0.4 kilometer from a skating rink. Mark lives 0.25 kilometer from the skating rink.

**Part A**: Who lives closer to the skating rink? Explain

_____________________________________

_____________________________________

_____________________________________

**Part B**: How can you write each distance as a fraction? Explain.

_____________________________________

_____________________________________

_____________________________________

**Part C**: Luke is walking to the skating rink to pick up a practice schedule. Then he will walk to Mark’s house. Will he walk more than one kilometer or less than one kilometer?

Explain.

_____________________________________

_____________________________________

_____________________________________

99. Gretchen needs to bake 3 pies. Each pie takes 10 minutes to bake. She needs to let the oven reheat for 5 minutes between each pie. She begins baking at 8:05 a.m. Use the number line to show when each pie is finished baking.

9:00 a.m.

8:00 a.m.

8:30 a.m.

8 a.m.

100. The number of ash trees on a tree farm is 5 times the number of pine trees. Choose one expression from each column to create an equation that compares the number of ash trees \((a)\) and pine trees \((p)\).

\[ a = 5p \]

\[ 5a = p \]

\[ a = p + 5 \]

\[ a = p - 5 \]

101. How many times greater is the value of 3 in 300 than the value of the 3 in 30?

102. Find the product 3012 and 4.

103. Draw a line to show the mixed number and fraction that have the same value. Items may be matched more than once or not at all.

\[ 3\frac{2}{6} \]

\[ 4\frac{5}{6} \]

\[ 2\frac{3}{5} \]

\[ 2\frac{3}{8} \]

\[ 21\frac{1}{8} \]

\[ 37\frac{3}{4} \]

\[ 21\frac{3}{8} \]

\[ 37\frac{7}{8} \]
Day 29

104. For A - D, tell whether the fractions are equivalent by circling the correct symbol to make the statement true.

A. \[\frac{3}{12} = \frac{1}{4}\]
B. \[\frac{3}{5} = \frac{9}{10}\]
C. \[\frac{5}{6} = \frac{10}{12}\]
D. \[\frac{6}{10} = \frac{5}{8}\]

105. Darcy bought \(\frac{1}{2}\) pound of cheese and \(\frac{3}{4}\) pound of hamburger for a barbecue. Use the numbers to compare the amounts of cheese and hamburger Darcy bought.

106. Naomi leaves for her trip to Los Angeles on the 12th day of August. Since August is the 8th month, Naomi wrote the date as shown.

Naomi says all of the numbers she wrote have line symmetry. Is she correct? Explain your thinking.

107. Some students are painting this backdrop for the school play.

The backdrop is taped off into 12 equal sections for the students to paint.

- Mark paints 2 times as much as Jill.
- Sam paints 3 times as much as Lou.
- Lou paints 1 section less than Mark.
- Jill paints \(\frac{1}{12}\) of the backdrop.

What is the fraction of the backdrop that still needs to be painted?
Day 30

108. After $\frac{1}{8}$, what are the next four multiples of $\frac{1}{8}$?

109. Gavin is designing a kite. He sketched a picture of the kite. How many right angles does the kite have?

110. There are 126 seats in a meeting room. There are 9 seats in each row. There are 90 people seated, filling up full rows of seats. How many rows are empty?

111. Sara bought 3 sweaters and 5 hats. The sweaters cost $15 each and the hats cost $5 each. Write an equation to show the total cost $c$, in dollars, of the items Sara bought and solve.

Equation:

Solution: dollars

112. Select the three inequalities that are true.
   a. $0.21 < 0.27$
   b. $0.4 > 0.45$
   c. $3.21 > 0.90$
   d. $1.9 < 1.90$
   e. $6.2 > 6.02$
Day 31

113. Marcia read books over the summer. She created the picture graph shown.

<table>
<thead>
<tr>
<th>Month</th>
<th>Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>June</td>
<td></td>
</tr>
<tr>
<td>July</td>
<td></td>
</tr>
<tr>
<td>August</td>
<td></td>
</tr>
</tbody>
</table>

Create another picture graph that shows this data with a different key. You may use whole books and half books in your graph.

114. Part A. Round 590,240 to the nearest hundred thousand. Enter your answer in the response box.

Part B. Round 594,899 to the nearest ten thousand. Enter your answer in the response box.

115. Select all the equations that are equal.
   a. $65 - 26 = 74 - 35$
   b. $72 - 56 = 84 - 58$
   c. $86 - 49 = 15 + 22$
   d. $97 - 33 = 39 + 25$
   e. $98 - 56 = 75 - 23$

116. Keith and Luis are mowing the lawn. They divided the lawn into 8 equal sections. Keith mowed 2 sections and Luis mowed 4 sections. Which model can be used to find the total fraction of the lawn they mowed? Circle the letter of all that apply.
117. Julius and Walt are finding the product of 25 and 16. Their work is shown below.

<table>
<thead>
<tr>
<th>Julius</th>
<th>Wait</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>× 16</td>
<td>× 16</td>
</tr>
<tr>
<td>250</td>
<td>200</td>
</tr>
<tr>
<td>+ 150</td>
<td>120</td>
</tr>
<tr>
<td>500</td>
<td>300</td>
</tr>
<tr>
<td>+ 50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>670</td>
</tr>
</tbody>
</table>

Part A

Both Julius and Walt solved the equation incorrect.

What did Julius do wrong?

_____________________________________
_____________________________________
_____________________________________
_____________________________________
_____________________________________

What did Walt do wrong?

_____________________________________
_____________________________________
_____________________________________
_____________________________________
_____________________________________

Part B

What is the correct product for 25 and 16?

118. Select all quotients that are equal to 20?

a. 120 ÷ 4
b. 120 ÷ 6
c. 180 ÷ 9
d. 180 ÷ 6
e. 240 ÷ 7
119. For Parts A - C, write an equation or a comparison sentence using the numbers on the tiles. Numbers may be used once, more than once, or not at all.

Part A:

\[
\begin{array}{c}
4 \\
4 \\
4 \\
4 \\
4 \\
4 \\
4 \\
4 \\
4 \\
4 \\
\end{array}
\]

\[
4
\]

\[
\square \times \square = \square
\]

Part B:

\[
\begin{array}{c}
8 \\
8 \\
8 \\
8 \\
8 \\
8 \\
8 \\
8 \\
8 \\
8 \\
\end{array}
\]

\[
8
\]

\[
\square \times \square = \square
\]

Part C:

\[
9 \times 3 = 27
\]

\[
\square \times \square = \square
\]

120. Enter the unknown number that makes the equation true.

\[
45 \times 89 = 3200 + 360 + \square + 45
\]

121. A shape pattern is shown.

\[
\text{Describe this pattern and state a rule.}
\]

\[
\text{If this pattern continues, how many squares will be in the sixth figure?}
\]

\[
\square \text{ squares}
\]
Day 34

122. Check the box that matches each figure with its description. Each figure may be matched to more than one description.

<table>
<thead>
<tr>
<th></th>
<th>Has at Least One Right Angle</th>
<th>Has at Least One Pair of Perpendicular Sides</th>
<th>Has at Least One Pair of Parallel Sides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectangle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhombus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parallelogram</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

123. In the school chorus, \( \frac{2}{12} \) of the students are fourth graders. Write an equivalent fraction that represents the number of students in the school chorus that are fourth graders?

\[ \frac{1}{6} \] of the students

124. Kari modeled a fraction by shading parts of the circle as shown.

Kari’s Fraction Model

Shade the correct number of sections to model a fraction equivalent to Kari’s fractions.

125. Kaylee has two fraction models, each divided into equal sized sections. The models are shaded to represent a fraction.

Model A is divided into 8 sections, and 5 sections are shaded.

Model B is divided into 12 sections and 8 sections are shaded.

Part A. Write the fraction for each model.

Model A: \( \frac{5}{8} \)

Model B: \( \frac{8}{12} \)

Part B. Which model shows the greater fraction?

Model \( \frac{5}{8} \)

Part C. Explain which fraction is greater.

\[ \frac{5}{8} > \frac{8}{12} \]

\[ \frac{5}{8} > \frac{2}{3} \]
126. Henry is making a recipe for biscuits. The recipe calls for \( \frac{5}{10} \) kilogram flour and \( \frac{9}{100} \) kilogram of sugar.

**Part A**

If Henry measures correctly and combines the two amounts, how much flour and sugar will he have? Show your work.

\[
\text{kg} \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad (3 \times 1) \text{ as a number.}
\]

127. Rico is making 4 batches of salsa. Each batch needs \( \frac{2}{3} \) cup of corn. He only has a \( \frac{1}{3} \) cup measure. How many times must Rico measure \( \frac{1}{3} \) cup of corn to have enough for all of the salsa?

\[
\text{times}
\]

128. Write \((6 \times 10,000) + (5 \times 1,000) + (2 \times 100) + (3 \times 1)\) as a number.

129. Find the product 312 and 3.

130. Which division sentence has a quotient with a remainder?
   a. 320 ÷ 4
   b. 360 ÷ 9
   c. 420 ÷ 3
   d. 650 ÷ 4
131. An equation is shown.

\[ 8 \times \square = \frac{4}{6} \]

Fill in the missing factor?

132. Select the rectangle that has a perimeter of 20 feet?

133. A rectangular school gym has a length of 120 feet and a perimeter of 520 feet. What is the width, in feet, of the school gym?

134. Corey tried to find a fraction equivalent to \( \frac{3}{5} \). His work is shown.

\[ \frac{3}{5} = \frac{3 \times 1}{5 \times 2} = \frac{3}{10} \]

Which statement describes Corey’s error?

a. He incorrectly multiplied \( \frac{3}{5} \) and \( \frac{1}{2} \).
b. It is impossible to find a fraction equivalent to \( \frac{3}{5} \).
c. He should have divided by \( \frac{1}{2} \).
d. He did not multiply \( \frac{3}{5} \) by a fraction equal to one.

135. Mr. Shelby bought a new plant. The plant grew 2.6 centimeters in the first week and 3.42 centimeters the second week. Select all of the statements that are true about the plant growth.

a. 2.6 > 3.42
b. 3.42 > 2.6
c. 2.6 < 3.42
d. 3.42 < 2.6
e. 2.6 = 3.42
136. Ilene is making smoothies. The recipe calls for \( \frac{1}{4} \) cups of strawberries. How many cups of strawberries, written as a fraction greater than 1, are used in the recipe?

\[ \square \text{ cups} \]

137. Jessica is thinking of a number that rounds to 1,300 for the nearest ten and for the nearest hundred. What number might she be thinking of?

\[ \square \square \square \]

138. Select >, < or = to complete a true statement about each pair of fractions.

\[ \frac{3}{5} \square \frac{5}{12} \]

\[ \frac{5}{6} \square \frac{3}{8} \]

\[ \frac{1}{3} \square \frac{3}{5} \]

139. Write the unknown digits. Use each digit exactly once.

\[ \times 28 \]

\[ 1100 \]

\[ 00 \]

\[ + \square \]

\[ 428 \]

1 2 4 8 0

140. Enter the missing digits to complete the subtraction problem.

\[ \begin{array}{c}
5096 \\
- \square \square \square \\
\hline
16\square \square \\
\end{array} \]

141. Write the letter for each angle measure in the correct box.

A 125° B 90° C 180° D 30° E 45° F 95°

acute obtuse right straight

142. List all the factor pairs in the table.

<table>
<thead>
<tr>
<th>Factors of 48</th>
</tr>
</thead>
<tbody>
<tr>
<td>( _ \times _ = \_ _ )</td>
</tr>
<tr>
<td>( _ \times _ = \_ _ )</td>
</tr>
<tr>
<td>( _ \times _ = \_ _ )</td>
</tr>
<tr>
<td>( _ \times _ = \_ _ )</td>
</tr>
</tbody>
</table>

143. Gina has \( \frac{5}{6} \) feet of silver ribbon and \( \frac{2}{3} \) of gold ribbon. How much more silver ribbon does Gina have than gold ribbon?

\[ \square \square \square \square \square \]

144. Represent the shaded part of the fraction bar as the product of a whole number and a unit fraction.

\[ \frac{1}{8} \frac{1}{8} \frac{1}{8} \frac{1}{8} \frac{1}{8} \frac{1}{8} \frac{1}{8} \frac{1}{8} \]

\[ \square \square \square \]

Compiled by the BCPS Mathematics, Science & Gifted Department
Day 39

145. Sort the given measurements from the list below into the box with their equivalent measurement.

- 2,000 millimeters
- 200 centimeters
- 20 decimeter
- 0.25 meter
- 250 millimeter
- \(\frac{25}{100}\) meter

2 meters

25 centimeters

147. On Saturday, Jesse plays basketball for \(\frac{2}{3}\) hour. Then he plays some more. He plays \(2\frac{1}{3}\) hours in all. How much longer did Jesse play basketball?

Part A: Draw a model to represent the problem. Then solve. Explain how your model helps you solve the problem.

Part B: On Sunday, Jesse played basketball for \(1\frac{2}{3}\) hours. How many total hours did he play basketball on Saturday and Sunday? Show your work.

Metric Conversions

- 1 meter = 100 centimeters
- 1 meter = 1000 millimeters
- 1 kilometer = 1000 meters
- 1 liter = 1000 milliliters
- 1 gram = 1000 milligrams
- 1 kilogram = 1000 grams

146. Select all of the statements that are true.

a. The value of 2 in 724,638 is 20,000.

b. The value of 8 in 380,194 is 800,000.

c. The value of 7 in 971,235 is 70,000.

d. The value of 9 in 874,092 is 900.

e. The value of 9 in 951,872 is 900,000
Day 40

148. **Part A:** Draw a line to match each section in the model to the partial product it represents.

```
3
100
40
6
```

**Part B:** Find the product of $3 \times 146$. Show your work and explain.

The fraction represented by this model can be written in the form of $\frac{?}{10}$.

**Part A.** What is the missing number?

149. Select all of the fractions that are equivalent to 0.7.

- a. $\frac{1}{7}$
- b. $\frac{7}{10}$
- c. $\frac{7}{100}$
- d. $\frac{10}{7}$
- e. $\frac{70}{10}$
- f. $\frac{70}{100}$

150. The season attendance for a college team’s home games, rounded to the nearest ten thousand, was 270,000. Which number could be the exact attendance?

- a. 265,888
- b. 260,987
- c. 276,499
- d. 226,638

151. A fraction model is shown.
FSA Warm-ups Grade 4

Answer Section

1. ANS: peanuts, raisins, almonds, cereal

STA: MAFS.4.NF.1.2

2. ANS: A, D, E

STA: MAFS.4.NF.2.3b

3. ANS:

STA: MAFS.4.OA.3.5

4. ANS:

Possible explanation: She can find the area of each rectangle and then find the sum. The area of the living room is $20 \times 20$ or 400 square feet. The area of the dining room is $15 \times 10$ or 150 square feet. The sum of the two rooms is $400 + 150$ or 550 square feet of carpeting.

STA: MAFS.4.MD.1.3

5. ANS:

STA: MAFS.4.NF.2.4b

6. ANS: B, C, D

STA: MAFS.4.NBT.26

7. ANS:

STA: MAFS.4.NF.2.4a

8. ANS: $\frac{9}{10}$

STA: MAFS.4.NF.2.3a

9. ANS:

Possible answers: $200 \div 10 = r$; $200 \div 10 = r$;
$200 = 10 \times r$; $200 = r \times 10$; $10 \times r = 200$; $r \times 10 = 200$

STA: MAFS.4.OA.1.2

10. ANS:

Part A: Josh: $\frac{2}{6}$; Celia: $\frac{2}{4}$

Part B: Celia is greater.

Part C: Possible answer: I know that $\frac{2}{4}$ is equal to $\frac{1}{2}$ and $\frac{3}{6}$ is also equal to $\frac{1}{2}$. Since $\frac{2}{6}$ is less than $\frac{3}{6}$, then $\frac{2}{6}$ is less than $\frac{2}{4}$.

STA: MAFS.4.NF.1.1

11. ANS: C

STA: MAFS.4.NBT.1.3

12. ANS: 120

STA: MAFS.4.NBT.2.5
13. ANS: \( \frac{1}{10} \)  
STA: MAFS.4.NF.2.4b

14. ANS: 89,295  
STA: MAFS.4.OA.1.1, MAFS.4.NBT.2.4

15. ANS:  
Part A: Check students’ work.  
Pool: 20 \times 16 = 320; 320 square meters  
Part B: Pool and walkway: 26 \times 22 = 572; 572 square meters  
Part C: 252 square meters; Possible answer: I subtracted the area of the pool from the combined area of the pool and walkway; 572 - 320 = 252, so Marco will need 252 square meters of tile for the walkway.  
STA: MAFS.4.MD.1.3

16. ANS: B, D, F  
STA: MAFS.4.NF.2.3b

17. ANS:  
\( \frac{1}{6} + \frac{4}{6} = \frac{5}{6} \)  
STA: MAFS.4.NF.2.3d

18. ANS:  
\( \frac{9}{5} = 9 \times \frac{1}{5} \)  
STA: MAFS.4.NF.2.4b

19. ANS:  
46,640 points; check students’ work  
STA: MAFS.4.NBT.2.5

20. ANS: B, E, F  
STA: MAFS.4.NBT.1.2

21. ANS:  
34,481 square miles; 155,779 - 121,298 = 34,481; I estimated the difference as 160,000 - 120,000, or 40,000. The answer is close to the estimate of 40,000, so it is reasonable. Check students’ work.  
STA: MAFS.4.NBT.2.4

22. ANS:  
Answers may vary: Any number in the range from 89 to 91  
STA: MAFS.4.MD.1.2

23. ANS: 61  
Possible explanation: Start with 61 and subtract 7 three times to get 40, 61, 54, 47, 40  
STA: MAFS.4.OA.3.5

24. ANS:  
STA: MAFS.4.G.1.3

25. ANS: 4,979  
STA: MAFS.4.NBT.2.4

26. ANS:  
STA: MAFS.4.NF.1.1

27. ANS: Missing number is 7  
STA: MAFS.4.NBT.2.4
28. **ANS:** A, B, D  
   STA: MAFS.4.MD.3.7

29. **ANS:** 50  
   STA: MAFS.4.NBT.2.6

30. **ANS:**  
   ![True False Table](image)
   STA: MAFS.4.NF.1.2

31. **ANS:** B  
   STA: MAFS.4.OA.1.3

32. **ANS:** 26  
   STA: MAFS.4.OA.1.2

33. **ANS:** 4,654  
   STA: MAFS.4.NBT.1.1

34. **ANS:**  
   \[
   \frac{3}{8} + \frac{2}{8} = \frac{5}{8} \text{ or } \frac{2}{8} + \frac{3}{8} = \frac{5}{8}
   \]  
   STA: MAFS.4.NF.2.3a

35. **ANS:**  
   \[
   \frac{5}{10} + \frac{18}{100} = \frac{13}{10} = \frac{130}{100} + \frac{18}{100} = \frac{68}{100}
   \]  
   STA: MAFS.4.NBT.1.2

36. **ANS:**  
   ![Between 14,000 feet and 14,300 feet](image)  
   Crestone Peak, Humboldt Peak, White Mountain  
   Between 14,301 feet and 14,500 feet  
   Blanca Peak, University Peak, Mount Whitney  
   STA: MAFS.4.NBT.1.2

37. **ANS:** D  
   STA: MAFS.4.NF.1.1

38. **ANS:**  
   10 extra pairs; Possible explanation: First, I found the total amount raised selling bagels with cream cheese: $2 \times 72 = $144. Then, I found how many pairs of socks the coach could buy with the money: $144 \div $6 = 24 pairs. Finally, I subtracted the number of players from the number of pairs of socks: 24 – 14 = 10.  
   STA: MAFS.4.OA.1.2

39. **ANS:**  
   ![Images](image)
   STA: MAFS.4.NF.2.3
40. \[ \frac{3}{4} + \left(\frac{2}{5} + \frac{1}{6}\right) = \left(\frac{3}{4} + \frac{2}{5}\right) + \frac{1}{6} \]  
Commutative Property

\[ \frac{4}{6} + \frac{1}{6} + \frac{2}{8} + \frac{2}{8} = \frac{4}{6} + \left(\frac{1}{6} + \frac{2}{8}\right) \]  
Associative Property

STA: MAFS.4.NF.2.3.c

41. \[ 6 \times n = 84 \] or \[ 84 \div 6 = n \]  
\[ n = 14 \]

Leah’s dog weighed 14 pounds. Darlene’s dog weighed 70 pounds.

STA: MAFS.4.OA.1.1

42. Suki rode her bike a longer distance than Claire.

Possible explanation: Suki need to ride \( \frac{1}{5} \) mile more to ride 1 mile, while Clair needs to ride \( \frac{2}{3} \) mile more to ride a mile. Since \( \frac{1}{5} \) is less than \( \frac{1}{3} \), Suki rode a longer distance than Claire.

STA: MAFS.4.NF.1.2

43. Greater than

STA: MAFS.4.NBT.1.1

44. \( \frac{1}{3} \) or any equivalent fractions for \( \frac{4}{12} \)

STA: MAFS.4.NF.1.1

45. \( \frac{2}{3} > \frac{1}{2} \), \( \frac{3}{5} < \frac{4}{6} \) (Other correct responses are possible)

STA: MAFS.4.NF.1.2

46. \[ \frac{\text{Angle: B}}{\text{Measure: 100°}} \quad \frac{\text{Angle: C}}{\text{Measure: 120°}} \quad \frac{\text{Angle: A}}{\text{Measure: 140°}} \]

Answer will vary

STA: MAFS.4.MD.3.6

47. \[ \frac{3}{5} \times 23 = \frac{23}{5} \]

STA: MAFS.4.NF.2.3b

48. Less than 90°  Between 90° and 180°

STA: MAFS.4.MD.3.5b

49. Greater than

STA: MAFS.4.G.1.2

50. Term: number  
First: 7  
Second: 11  
Third: 15  
Fourth: 19  
Fifth: 23

STA: MAFS.4.OA.3.5
51. ANS: B
STA: MAFS.4.OA.1.1

52. ANS:
\[
\begin{array}{ccc}
1 & 1 & 1 \\
8 & 3 & 2
\end{array}
\]
Possible justification: When the numerators are the same, the number of pieces are the same. So I compared the sizes of the pieces by using the denominator, which tells how many pieces are in a whole. The more pieces in a whole, the smaller they are. So \( \frac{1}{8} \) is a smaller size than \( \frac{1}{3} \), and \( \frac{1}{3} \) is smaller than \( \frac{1}{2} \).
STA: MAFS.4.NF.1.2

53. ANS:
Mr. Tuyen uses \( \frac{25}{8} \) or \( 3 \frac{1}{8} \) tanks of gas.
STA: MAFS.4.NF.2.4c

54. ANS:
8, 16, 24, 32, 40

55. ANS:
Part A: 160 \div 9 = 17 r7
Part B: A remainder of 7 means that 7 dogs and their crates do not fit in the 17 trucks.
Part C: Having a remainder lets me know that not all of the dogs and their crates will fit in the 17 trucks. The facility manager did not rent enough trucks.
STA: MAFS.4.OA.1.3

56. ANS: A, B, D
STA: MAFS.4.MD.1.3

57. ANS:
No; Chaz needs $1.77 more to have enough money for the batteries.
STA: MAFS.4.MD.1.2

58. ANS:
Possible answer: 1,000
STA: MAFS.4.NBT.1.1

59. ANS: B, C, D
STA: MAFS.4.NBT.1.3

60. ANS: D
STA: MAFS.4.OA.1b

61. ANS:
STA: MAFS.4.G.1.1

62. ANS:

STA: MAFS.4.NF.3.6

63. ANS:
Part A: 66,416 children; 35,010 + 31,406 = 66,416. Check students’ work
Part B: 207,909; 115,279 + 92,630 = 207,909 Check students’ work.
STA: MAFS.4.NBT.2.4
64. ANS: B, C, E

STA: MAFS.4.OA.1.1, MAFS.3.OA.2.6

65. ANS: D

STA: MAFS.4.NF.2.3d

66. ANS: 224 ounces

STA: MAFS.4.MD.1.2

67. ANS:

\[
\begin{array}{c|c}
7 & 749 \\
\hline
700 & 100 \times 7 & 100 \\
49 & 7 \times 7 & 7 \\
0 & & 107 \\
\end{array}
\]

STA: MAFS.4.NBT.2.6

68. ANS:

\[
\begin{array}{c|c}
& 46 \\
\times & 93 \\
\hline
13800 & \\
540 & \\
120 & + \\
\hline
4278 & \\
\end{array}
\]

STA: MAFS.4.NBT.2.5

69. ANS:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td></td>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.52

STA: MAFS.4.NF.3.6

70. ANS: A, B, D

STA: MAFS.4.NF.2.3b

71. ANS:

STA: MAFS.4.MD.1.1

72. ANS: A, C, D

STA: MAFS.4.G.1.2

73. ANS: 14,248

STA: MAFS.4.NBT.2.5

74. ANS: C, E

STA: MAFS.4.NBT.2.5

75. ANS:

Part A: $7.30; Possible explanation: I counted the one-dollar bills to get $5.00. Then I counted on 6 quarters: $5.25, $5.50, $5.75, $6.00, $6.25, $6.50. Then I counted on 8 dimes: $6.60, $6.70, $6.80, $6.90, $7.00, $7.10, $7.20, $7.30.

Part B: No; Possible explanation: They can divide the bills and coins so that Max and Gwen each have the same amount of money. One person will have 3 one-dollar bills, 1 quarter, and 4 dimes, and the other will have 2 one-dollar bills, 5 quarters, and 4 dimes.

Part C: Each person will get $3.65

STA: MAFS.4.MF.1.2

76. ANS: C, D

STA: MAFS.4.MD.1.1

77. ANS: B, C

STA: MAFS.4.NBT.2.6
78. ANS: $3,330; Possible explanation: I multiplied 3 and 15 to get 45 seats. Then I multiplied 45 and 74 using partial products: (40 \times 70) + (40 \times 4) + (5 \times 70) + (5 \times 4) to get 2,800 + 160 + 350 + 20 = 3,330.

STA: MAFS.4.OA.1.3

79. ANS: A, E

STA: MAFS.4.OA.1.1

80. ANS: C

STA: MAFS.4.NBT.1.1

81. ANS:

Part A: Buttermilk; Possible answer: I can find equivalent fractions with the same denominator and compare the numerators: \( \frac{1}{2} \)

\[ \frac{4}{8} \rightarrow \text{Since } 5 > 4, \frac{5}{8} > \frac{4}{8} \]

Part B: Yes; Possible answer: \( \frac{3}{4} \) and \( \frac{6}{8} \) are equivalent fractions because the simplest form of the fraction \( \frac{6}{8} \) is \( \frac{3}{4} \). So, Ramon needs the same amount of parsley and scallions.

STA: MAFS.4.NF.1.2

82. ANS:

\[ \frac{4}{10} = 0.4 \]

\[ \frac{17}{100} = 0.17 \]

\[ \frac{9}{100} = 0.09 \]

\[ \frac{6}{100} = 0.06 \]

\[ \frac{17}{100} = 0.17 \]

STA: MAFS.4.NF.3.6

83. ANS: $\frac{3}{6}$ and $\frac{1}{2}$

STA: MAFS.4.NF.2.3

84. ANS:

<table>
<thead>
<tr>
<th>6,458</th>
<th>375,123</th>
<th>18,005</th>
<th>52,789</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>5,000</td>
<td>5</td>
<td>50,000</td>
</tr>
</tbody>
</table>

STA: MAFS.4.NBT.1.2

85. ANS: 0.67 and 0.70

STA: MAFS.4.NF.3.7

86. ANS: 7

STA: MAFS.4.NBT.2.4

87. ANS:

Possible answers: \( 4 \times 13 = c; c = 4 \times 13; c = 13 \times 4; 13 \times 4 = c \)

52 marbles

STA: MAFS.4.OA.1.2

88. ANS: D

STA: MAFS.4.NBT.1.2

89. ANS:

\[ \frac{4}{4} \text{ or 1 quart of purple paint} \]

STA: MAFS.4.NF.2.3d

90. ANS: E and F

STA: MAFS.4.NBT.1.2
91. **ANS:**

<table>
<thead>
<tr>
<th>5 hundreds + 4 tens &gt; 50 + 400</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>524 &lt; 50 + 200 + 4</td>
<td>False</td>
<td>True</td>
</tr>
<tr>
<td>50 tens + 20 ones = 520</td>
<td>True</td>
<td>False</td>
</tr>
</tbody>
</table>

**STA:** MAFS.4.NBT.1.2

92. **ANS:** 2 ounces

**STA:** MAFS.4.MF.1.2

93. **ANS:** 10,000; Possible explanation: There is a 1 in the ten thousands place. The digit to its right is 3, so the 1 stays the same.

**STA:** MAFS.4.NBT.1.3

94. **ANS:** \( \frac{8}{3} \)

**STA:** MAFS.4.NF.2.3b

95. **ANS:**

\[
\frac{4}{3} > \frac{6}{5} \\
\frac{3}{2} < \frac{8}{3} \\
\frac{3}{2} < \frac{7}{4}
\]

**STA:** MAFS.4.NF.1.2

96. **ANS:**

\[
7 \frac{1}{5} \text{ or } \frac{36}{5}
\]

**STA:** MAFS.4.NF.2.4a

97. **ANS:** C, E

**STA:** MAFS.4.MD.1.1

98. **ANS:**

**Part A**

Mark: Possible explanation: 0.4 is 4 tenths and 0.25 is 2 tenths 5 hundredths. Compare the tenths. Since 4 tenths > 2 tenths, Luke lives farther from the rink, so Mark lives closer.

**Part B**

Possible answers: 0.4 = \( \frac{4}{10} \) and 0.25 = \( \frac{25}{100} \); Possible explanation: 0.4 is the same as 4 tenths and 0.25 is the same as 25 hundredths.

**Part C**

Less than a kilometer; Possible explanation: \( \frac{4}{10} < \frac{5}{10} \) and \( \frac{25}{100} < \frac{50}{100} or \frac{1}{2} \). Therefore, \( \frac{4}{10} + \frac{25}{100} < \frac{1}{2} + \frac{1}{2} \). Since \( \frac{1}{2} + \frac{1}{2} = 1 \), I know that \( \frac{4}{10} + \frac{25}{100} < 1 \).

**STA:** MAFS.4.NF.3.7

99. **ANS:**

![Pie Chart]

Pie 1: 8:15 am
Pie 2: 8:30 am
Pie 3: 8:45 am

**STA:** MAFS.4.MD.1.2

100. **ANS:**

Possible answers: \( a = 5p \) or \( a = 5 = p \)

**STA:** MAFS.4.OA.1.2

101. **ANS:** 10

**STA:** MAFS.4.NBT.1.1

102. **ANS:** 12,048

**STA:** MAFS.4.NBT.2.5

103. **ANS:**

\[
\frac{5}{6}, \frac{5}{5}, \frac{2}{4}, \frac{2}{8}, \frac{1}{4}, \frac{1}{8}, \frac{37}{3}, \frac{37}{9}
\]

**STA:** MAFS.4.NF.2.3b
104. ANS:

a. 

b. 

c. 

d. 

STA: MAFS.4.NF.1.1

105. ANS:

STA: MAFS.4.NF.1.2

106. ANS:

No; Possible explanation: Naomi is incorrect. The number 2 does not have a line of symmetry because if it were cut out, there would be no way to fold it in half so that the two parts match exactly.

STA: MAFS.4.G.1.3

107. ANS: \[ \frac{5}{12} \]

STA: MAFS.4.NF.2, MAFS.4.OFA.1.2

108. ANS: \[ \frac{2}{8}, \frac{3}{8}, \frac{4}{8}, \frac{5}{8} \]

STA: MAFS.4.NF.2.4a

109. ANS:

0 right angles

STA: MAFS.4.G.1.1

110. ANS: 4

STA: MAFS.4.OA.1.2

111. ANS: \((3 \times 15) + (5 \times 5) = c\)

\[ c = 70 \]

STA: MAFS.4.OA.1.3

112. ANS: A, C, E

STA: MAFS.4.NF.3.7

113. Students selects a key and correctly completes the picture graph using that key. See exemplar.

STA: MAFS.4.OA.2.4, MAFS.4.NF.B.4b, MAFS.3.MD.2.3

114. ANS:

Part A: 600,000

Part B: 590,000

STA: MAFS.4.NBT.1.3

115. ANS: A, C, D

STA: MAFS.OA.1a

116. ANS: A and D

STA: MAFS.4.NF.2.3a
117. **ANS:**

**Part A:** Julius multiplied 25 by 10 and then multiplied 25 by 6 correctly. He added the two partial products incorrectly. Walt multiplied 6 by 5 and got 300 instead of 30.

**Part B:** 400

STA: MAFS.4.NBT.2.5

118. **ANS:** B, C

STA: MAFS.4.NBT.2.6

119. **ANS:**

Part A. 8 times as many as 4 is 32.
Part B: 6 x 8 = 48 or 6 x 8 = 48.
Part C: 9 times as many as 3 is 27 or 3 times as many as 9 is 27.

STA: MAFS.4.OA.1.1

120. **ANS:** 400

STA: MAFS.4.NBT.2.5

121. **ANS:**

Possible answer: In each shape a new row is added. In each new row, the number increases by 1 from the previous row. The pattern is “Add 1” to each new row.

21 squares

STA: MAFS.4.OA.3.5

122. **ANS:**

STA: MAFS.4.G.1.2

123. **ANS:**

\[ \frac{1}{6} \] of the students or any equivalent fraction with larger denominators

STA: MAFS.4.NF.1.1

124. **ANS:**

STA: MAFS.4.NF.1.1

125. **ANS:**

Part A: Model A: \[ \frac{5}{8} \]; Model B: \[ \frac{8}{12} \]

Part B: Model B

Part C: Possible answer: I found a common denominator to compare. First, I multiply the numerator and the denominator by 3 to find an equivalent fraction in \( \frac{5}{8} \) in twenty-fourths to get \( \frac{15}{24} \). Then I multiply the numerator and the denominator by 2 to find an equivalent fraction in \( \frac{8}{12} \) in twenty-fourths to get \( \frac{16}{24} \). Since \( \frac{16}{24} \) is greater than \( \frac{15}{24} \), then \( \frac{8}{12} \) is greater than \( \frac{5}{6} \).

STA: MAFS.4.NF.1.1

126. **ANS:**

Part A

\[ \frac{59}{100} \text{ kilogram; } \frac{5}{10} = \frac{50}{100}; \frac{5}{10} + \frac{9}{100} = \frac{59}{100} \]

Part B 0.59 kilograms

STA: MAFS.4.NF.3.

127. **ANS:** 8 times

STA: MAFS.4.NF.2.4b

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128. ANS: 65,203
   STA: MAFS.4.NBT.1.2
129. ANS: 936
   STA: MAFS.4.NBT.2.5
130. ANS: D
   STA: MAFS.4.NBT.2.6
131. ANS: $\frac{1}{12}$
   STA: MAFS.4.NF.2.4b
132. ANS: D
   STA: MAFS.4.MD.1.3
133. ANS: 140 feet
   STA: MAFS.MD.1.3
134. ANS: D
   STA: MAFS.4.NF.1.1
135. ANS: B, C
   STA: MAFS.4.NF.3.7
136. ANS: $\frac{5}{4}$
   STA: MAFS.4.NF.2.3b
137. ANS: Any numbers from 1,295 to 1,304
   STA: MAFS.4.NBT.1.3
138. ANS:
   $\frac{3}{5} > \frac{5}{12}$
   STA: MAFS.OA.2.4

| \( \frac{5}{6} > \frac{3}{8} \) |
| \( \frac{1}{3} < \frac{3}{5} \) |

STA: MAFS.4.NF.1.2

139. ANS:
   \[
   \begin{array}{c}
   51 \\
   \times 28 \\
   \hline
   408 \\
   200 \\
   100 \\
   \hline
   1428
   \end{array}
   \]
   STA: MAFS.4.NBT.2.5

140. ANS:
   \[
   \begin{array}{c}
   5096 \\
   - 3488 \\
   \hline
   1608
   \end{array}
   \]
   STA: MAFS.4.NBT.2.4

141. ANS:
   \[
   \begin{array}{cccccc}
   \text{acute} & D, E \\
   \text{obtuse} & A, F \\
   \text{right} & B \\
   \text{straight} & C
   \end{array}
   \]
   STA: MAFS.4.MD.3.5b

142. ANS:

<table>
<thead>
<tr>
<th>Factors of 48</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 \times 48 = 48</td>
</tr>
<tr>
<td>2 \times 24 = 48</td>
</tr>
<tr>
<td>3 \times 16 = 48</td>
</tr>
<tr>
<td>4 \times 12 = 48</td>
</tr>
<tr>
<td>6 \times 8 = 48</td>
</tr>
</tbody>
</table>

STA: MAFS.OA.2.4
143. ANS: 
\[ \frac{4}{6} \text{ or } \frac{2}{3} \text{ feet more silver ribbon} \]

STA: MAFS.4.NF.2.3.c

144. ANS: 
\[ \frac{6}{8} = 6 \times \frac{1}{8} \]

STA: MAFS.4.NF.2.4a

145. ANS:
- 2 meters: 2,000 mm, 200 cm, 20 dm
- 25 centimeters: \(\frac{25}{100}\) m, 0.25m, 250 mm

STA: MAFS.4.MD.1.1

146. ANS: A, C, E

STA: MAFS.4.NBT.1.1

147. ANS:
Part A. Models will vary.

1 \(\frac{2}{3}\) hours; Possible explanation: The model represents 3 hours divided into thirds. The shaded parts represent the total time Jesse plays. The first two shaded parts represent the time he played at first. The five remaining shaded parts represent the additional time he played.

\[ \frac{5}{3} = 1 \frac{2}{3} \]

Part B. 4 hours;

\[ 2 \frac{1}{3} + 1 \frac{2}{3} = (2 + 1) + \left( \frac{1}{3} + \frac{2}{4} \right) = 3 + \frac{3}{3} = 3 + 1 = 4 \]

STA: MAFS.4.NF.2.3a

148. ANS:

Part A

Part B: Check students’ work

\[ \begin{align*}
146 \\
\times 3 \\
\hline
300 \\
120 \\
+ 18 \\
\hline
438
\end{align*} \]

Possible explanation: The model shows that I can write 146 as \(100 + 40 + 6\). Then I multiply each number by 3 to get the partial products 300, 120, and 18. The sum of the partial products, 438, is the answer.

STA: MAFS.4.NBT.2.5

149. ANS: B, F

STA: MAFS.4.NF.3.6

150. ANS: A

STA: MAFS.4.NBT.1.3

151. ANS:
Part A. 6

Part B. 0.6 or 0.60

STA: MAFS.4.NF.3.5, MAFS.4.NF.3.6