PARCC

Partnership for Assessment of
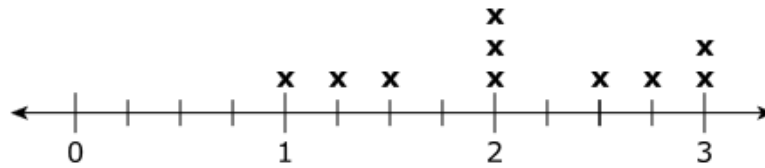Readiness for College and Careers

Math

Spring 2017

Grade 4

Released Items

1.

Leonard measures the length of his used crayons. The lengths, in inches, of the crayons are shown on the line plot.

Crayon Lengths (inches)

Leonard lines the crayons up end to end. What is the total length, in inches, of the line of crayons?

- A. $\frac{56}{4}$ inches

- B. $\frac{84}{4}$ inches

- C. 56 inches

- D. 84 inches

2.

Find the value of the expression $4{,}251 \times 8$.

- A. 32,008

- B. 32,608

- C. 33,608

- D. 34,008

3.

Select the **four** numbers that have 21 as a multiple.

☐ A. 1

☐ B. 3

☐ C. 7

☐ D. 14

☐ E. 21

☐ F. 42

4.

Write a different fraction that is equivalent to $\frac{4}{4}$.

Enter your answer in the boxes.

5.

A group of 90 people went on a trip to a state park. Once the group arrived, 10 people from the group went on a walk. The remaining people in the group wanted to go canoeing. Each canoe held 3 people.

- Write and solve an equation to show the number of canoes the group needed. Explain your answer.
- The canoeing group decided that a total of 26 canoes were needed. Explain why the canoeing group's decision was correct or incorrect.

Enter your equation and your explanations in the space provided.

6.

Select the **two** values that are about 300 more than 985,382.

☐ A. 985,082

☐ B. 985,410

☐ C. 985,600

☐ D. 985,680

☐ E. 985,700

☐ F. 988,300

7.

Melanie measured the mass of three textbooks.

- The mass of the math book is $\frac{9}{10}$ kilogram.
- The mass of the science book is $\frac{3}{10}$ kilogram less than the mass of the math book.
- The mass of the reading book is $\frac{2}{10}$ kilogram greater than the mass of the science book.

Part A

What is the mass of the reading book?

- A. $\frac{4}{10}$ kilogram

- B. $\frac{5}{10}$ kilogram

- C. $\frac{8}{10}$ kilogram

- D. $\frac{14}{10}$ kilograms

Part B

The mass of a music book and an art book together equal the mass of the math book. Which expression could show the mass of the music and art books?

- A. $\frac{3}{10} + \frac{3}{10}$

- B. $\frac{6}{10} + \frac{2}{10}$

- C. $\frac{7}{10} + \frac{2}{10}$

- D. $\frac{9}{10} + \frac{9}{10}$

8. M01232

Which expression shows how to find the value of $2 \times \frac{3}{4}$?

- A. $\frac{2+3}{4}$

- B. $\frac{2 \times 3}{4}$

- C. $\frac{3}{2+4}$

- D. $\frac{3}{2 \times 4}$

9. M00723

Complete the steps to find the quotient of $492 \div 6$.

Enter your answers in the boxes.

$492 \div 6$

Step 1. ([____] ÷ 6) + (180 ÷ 6) + ([____] ÷ 6)

Step 2. [____] + [____] + 2

Quotient. [____]

10. VH059749

Which statement is true?

- A. The value of the digit 4 is the same in 6,742 and 2,481.

- B. The value of the digit 4 is the same in 2,481 and 4,563.

- C. The value of the digit 4 is 10 times as much in 6,742 as in 4,563.

- D. The value of the digit 4 is 10 times as much in 2,481 as in 6,742.

11.

Two science classes are conducting an experiment together in the science lab. Each class has 23 students. The tables in the science lab can each seat up to 4 students.

- Write an equation to find the least number of tables needed for all the students from both classes in the science lab. Use a letter for the unknown value in your equation.
- How many tables are needed for all the students from both science classes?
- Explain your answer.

Enter your equation, answer, and explanation in the space provided.

▾ Math symbols

+	−	×	÷
몸	몲	(·)	[·]
=	<	>	≠
$	°	?	

12.

Solve.

Enter your answer in the box.

$8{,}782 - 1{,}855 =$

13.

There are 12 players on Manny's baseball team. For a snack, each player on the team gets $\frac{3}{4}$ ounce of almonds. How many total ounces of almonds are needed for the team's snack?

Enter your answer in the box.

Kyle lives $\frac{4}{12}$ mile from school. Jane lives a greater distance from school than Kyle.

Part A

Which fraction could be the distance, in miles, that Jane lives from school?

○ A. $\frac{1}{3}$

○ B. $\frac{2}{5}$

○ C. $\frac{2}{8}$

○ D. $\frac{3}{10}$

Part B

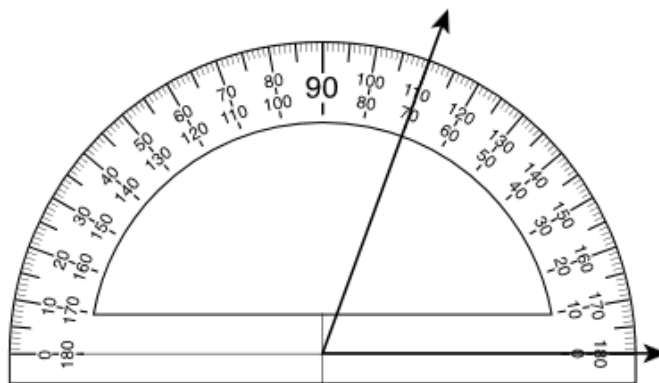Show whether each fraction is less than, equal to, or greater than $\frac{4}{12}$.

Drag and drop each fraction into the correct box.

| $\frac{1}{4}$ | $\frac{2}{6}$ | $\frac{3}{8}$ | $\frac{3}{5}$ | $\frac{2}{10}$ |

| Less than $\frac{4}{12}$ | Equal to $\frac{4}{12}$ | Greater than $\frac{4}{12}$ |

Select the **two** sums that are equal to $\frac{5}{8}$.

☐ A. $\frac{1}{8} + \frac{1}{8}$

☐ B. $\frac{3}{8} + \frac{2}{8}$

☐ C. $\frac{2}{5} + \frac{2}{5} + \frac{1}{5}$

☐ D. $\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

☐ E. $\frac{5}{8} + \frac{5}{8} + \frac{5}{8} + \frac{5}{8} + \frac{5}{8}$

☐ F. $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$
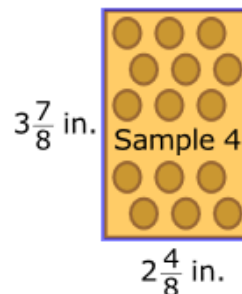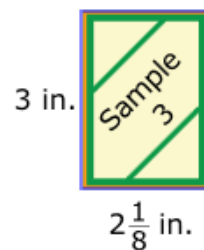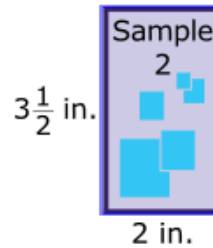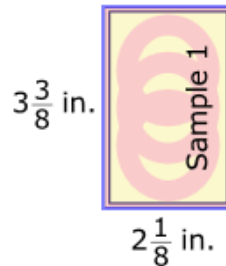
Kelly drew the angle shown.

Which value is closest to the measurement of Kelly's angle?

○ A. 40°

○ B. 70°

○ C. 110°

○ D. 180°

Part A

Company K makes key cards that can be used to open doors instead of using keys. Company K is reviewing samples of a rectangular shape for a new key card. They want the new key card to have a perimeter of 11 inches (in.).

Select the **two** key card samples that have a perimeter of 11 inches.

$3\frac{3}{8}$ in.   Sample 1 $3\frac{1}{2}$ in.   Sample 2

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

3 in.   Sample 3 $3\frac{7}{8}$ in.   Sample 4

$2\frac{1}{8}$ in. $2\frac{4}{8}$ in.

Part B

Company K decides to make the length of the key card $2\frac{3}{6}$ inches with a perimeter of 11 inches.

What is the width, in inches, of the key card?

Enter your answer in the box.

[   ]

Which comparisons are correct?

Select the **three** correct answers.

☐ A. $3.71 < 3.8$ ☐ D. $20.62 < 20.8$

☐ B. $9.50 > 9.5$ ☐ E. $56.34 > 56.4$

☐ C. $17.01 = 17.1$ ☐ F. $78.4 = 78.40$

19.   VF524081

On Thursday, 324 people watched a play. On Friday, 4 times as many people watched the play as on Thursday.

How many people watched the play on Friday?

○ A. 788

○ B. 1,288

○ C. 1,296

○ D. 1,386

20.   VF822772

Part A

Solve the multiplication problems to discover a pattern.

Enter your answers in the boxes.

$1 \times 6 = 6$

$10 \times 6 = $ [   ]

$100 \times 6 = $ [   ]

$1,000 \times 6 = $ [   ]

Part B

Use the pattern to help you solve this problem.

Enter your answer in the box.

$100,000 \times 6 = $ [   ]

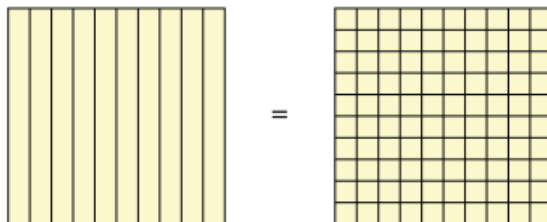**21.**   M01440

Last year, 54 pounds of paper were recycled. This year, 6 times as many pounds of paper were recycled as last year. Which equation can be used to find n, the number of pounds recycled this year?

○ A. $n \times 54 = 6$

○ B. $6 \times n = 54$

○ C. $6 \times 54 = n$
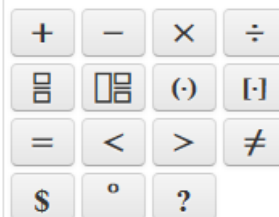
○ D. $54 \times n = 6$

Part A

Write a fraction with a denominator of 100 that is equivalent to $\frac{4}{10}$. Explain how the model can be used to show both fractions are equivalent.

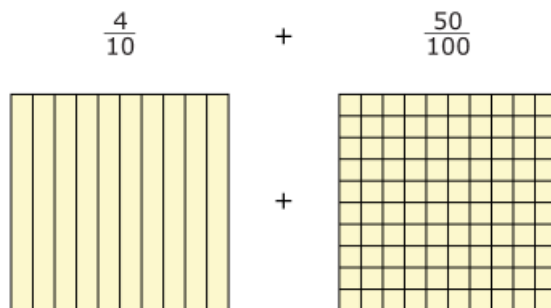Enter your answer and your explanation in the space provided.

Part B

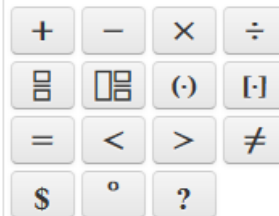Find the sum of the fractions. Explain how you could use the model to solve the problem.

$$\frac{4}{10} \quad + \quad \frac{50}{100}$$

Enter your answer and your explanation in the space provided.

23.   **M01253**

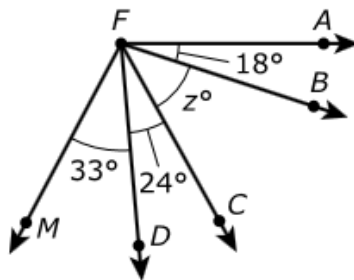What is the value of $2,681 + 7,534$?

○ A. 9,115

○ B. 9,215

○ C. 10,115

○ D. 10,215

24.   **VH061785**

The measure of angle *AFM* is 118°.

Part A

What is the measure, in degrees, of angle *CFM*?

Enter your answer in the box.

[   ]

Part B

What is the measure, in degrees, of angle *AFC*?

Enter your answer in the box.

[   ]

25.   **VF651703**

Fourth grade students go on a field trip to a history museum.

• There are 87 students and 3 teachers on the field trip.
• The teachers divide the students into 3 equal groups.

Each teacher is given exactly enough museum postcards to give 11 postcards to each student in her group. Exactly how many postcards are given to each teacher?

Enter your answer in the box.

[   ]

Jordan and Landon each made three statements about fractions.

Part A

Jordan's statements:

Statement 1: $\frac{6}{3} = 2$ since $2 \times 3 = 6$.

Statement 2: $\frac{7}{1} = 7$ since 7 wholes equals 7.

Statement 3: $\frac{6}{6} = 6$ since the numerator and the denominator are both 6.

- Determine which statement made by Jordan is incorrect and explain why it is not correct.
- Explain how to rewrite the statement so that it is correct.

Enter your answer and your explanations in the space provided.

▾ Math symbols

+	−	×	÷
吕	唱	(·)	[·]
=	<	>	≠
$	°	?

Part B

Landon's statements:

Statement 1: $\frac{2}{3} = \frac{2}{4}$ because the numerators are equal.

Statement 2: $\frac{5}{8} > \frac{3}{8}$ because 5 is greater than 3 and the denominators are equal.

Statement 3: $\frac{1}{3} < \frac{2}{3}$ because 1 is less than 2 and the denominators are equal.

- Determine which statement made by Landon is not correct and explain why it is not correct.
- Explain how to rewrite the statement so that it is correct.

Enter your answer and your explanation in the space provided.

▾ Math symbols

+	−	×	÷
吕	唱	(·)	[·]
=	<	>	≠
$	°	?

27. VH014917

On which clock do the hands show a 90° angle?

A.

C.

B.

D.

28. VF496026
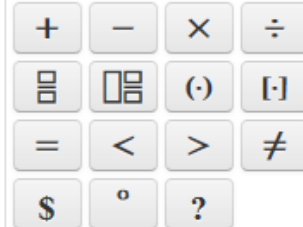
When 713 is divided by 7, the remainder is 6. Use multiplication to explain why this is true.

Enter your explanation in the space provided.

29. M00974

A restaurant placed a 2-quart pitcher of water on each of 76 tables. The water was served from a 50-gallon container.

How many quarts of water remained in the 50-gallon container after all the pitchers were filled?
(4 quarts = 1 gallon)

Enter your answer in the box.

30. M01683

A principal bought 3,360 colored pens at the beginning of the school year. He bought the same number of each color. If there are 8 colors, how many of each color did the principal buy?

- ○ A. 312

- ○ B. 336

- ○ C. 420

- ○ D. 595

31. M03055

Which statements represent $4 \times 9 = 36$?

Select the **two** correct statements.

- ☐ A. 4 more than 9 is 36.

- ☐ B. 4 times as many as 9 is 36.

- ☐ C. 4 is 9 times as many as 36.

- ☐ D. 9 more than 4 is 36.

- ☐ E. 9 times as many as 4 is 36.

- ☐ F. 9 is 4 times as many as 36.

32.

Connie has $3\frac{7}{8}$ pounds of books in her backpack. She also has $\frac{3}{8}$ pound of school supplies in her backpack.

Part A

Use fractions to create an equation that shows how to find the total weight, in pounds, of the books and school supplies in Connie's backpack. Let w represent the total weight in pounds.

Drag and drop the fractions and symbols into the boxes to create the equation.

$$\boxed{+} \quad \boxed{-} \quad \boxed{\times} \quad \boxed{\div} \quad \boxed{w} \quad \boxed{\frac{3}{8}} \quad \boxed{\frac{10}{8}} \quad \boxed{\frac{18}{8}} \quad \boxed{\frac{31}{8}} \quad \boxed{\frac{77}{8}}$$

$$\boxed{} \, \boxed{} \, \boxed{} = \boxed{}$$

Books   School Supplies

Part B

What is the total weight, in pounds, of the books and school supplies in Connie's backpack?

Enter your answer in the boxes.

$$\boxed{}$$
$$\overline{}$$
$$\boxed{}$$

33.

A truck driver left San Francisco, California, and drove to Chicago, Illinois. The truck driver then drove to Key West, Florida.

The driving distance between San Francisco and Chicago is 2,132 miles. The driving distance between Chicago and Key West is 1,535 miles.

What is the total distance, in miles, driven by the truck driver?

Enter your answer in the box.

$$\boxed{}$$