# Mathematically <br> Connected Communities <br>  

# PARCC Practice Test Items <br> Grade 3 Mathematics 

Excerpted 10/2016 from
PARCC Paper-Based and Computer-Based Practice Tests
https://parcc.pearson.com/practice-tests/math/

## Mathematical Practice Questions for $\mathbf{M C}^{\mathbf{2}}$ Thinking Protocol

Use the MC ${ }^{2}$ Thinking Protocol and follow the process below in working with the PARCC practice test items found in this packet:

1. Choose items from this packet that relate to math concepts studied in the current or previous curriculum units during your math instruction. Each item may be used as a practice item worksheet.
2. Choose a set of Thinking/Writing Prompts below based on the math practice the class is working to develop.
3. Add the prompts to the practice item worksheet or display the prompts for the students to respond to.
4. Continue using the same set of prompts for an extended period of time so children develop competence and confidence in describing their mathematical thinking related to the math practice.

The questions below were intentionally not included on each $M C^{2}$ PARCC practice test item worksheet in this packet. These are intended to help students move beyond "answer getting" to fully making sense of test item questions and their own mathematical thinking.

## Thinking/Writing Prompts to Promote Mathematical Practices

## Math Practice 1: Make sense of problems and persevere in solving them.

1. What do you know about the problem?
2. What questions do you have?
3. Explain your reasoning or thinking in solving the problem.

## Math Practice 3: Construct viable arguments and critique the reasoning of others.

1. What are the assumptions, definitions, and previous knowledge to help in thinking about this problem?
2. What are some possible conjectures that you have about the problem?
3. Explain your mathematical argument so that somebody else can make sense of your thinking.

## Math Practice 4: Model with mathematics.

1. What are the important quantities in the problem that are needed to solve it?
2. What mathematical operation(s) or representation(s) will you use to solve the problem?
3. Explain how you know your answer makes sense in the context of the situation.

## Math Practice 6: Attend to precision.

1. What are the important units in the problem? (What are we measuring or counting?)
2. What relationship between the units/quantities do you need to know in order to solve the problem?
3. Use appropriate and precise mathematical language, units, labels and computations to clearly describe your mathematical reasoning.
4. Which two statements can be represented by the expression $4 \times 8$ ?
(A) A teacher puts 8 chairs at each of 4 tables.
(8) Tom buys 4 red markers and 8 black markers.
(c) Marie shares her 8 marbles equally among 4 friends.
(0) There are 4 rows of flowers. There are 8 flowers in each row.
(c) There are 8 ducks in the pond. Then, 4 more ducks join them.

3rd Grade PARCC Unit 1 Practice Test Item \#2 (Non-Calculator): Standard 3.NBT. 2
2. Which expression could be used to find the value of $465+229$ ?
(ㄹ) $4+2+6+2+5+9$
(B) $40+20+60+20+5+9$
(c) $400+200+6+2+5+9$
(D) $400+200+60+20+5+9$
3. Ana starts eating lunch at $12: 15$ p.m. She finishes eating lunch 40 minutes later.

Which clock shows the time that Ana finishes eating lunch?


## 4. Part $A$

Nolan has 16 pennies in one jar and 94 pennies in another jar.
He uses some of the pennies to buy a pencil that costs 25 cents. What is the total number of pennies Nolan has left after he buys the pencil? Show your work.

Enter your answer and your work in the space provided.

3rd Grade PARCC Unit 1 Practice Test Item \#4 (Non-Calculator): Standards 3.D.2, 2.0A. 1 (continued)

## Part B

Nolan saves some more pennies and now has 187 pennies all in one jar. He finds 10 more pennies in his pocket.

What is the total number of pennies Nolan has after he adds the 10 pennies from his pocket to the jar?

Enter your answer in the box.


3rd Grade PARCC Unit 1 Practice Test Item \#4 (Non-Calculator): Standards 3.D.2, 2.0A. 1 (continued)

## Part C

The table shows the number of pennies Nolan saved each week for four weeks.

Pennies Saved Each Week

| Week | Number of Pennies |
| :---: | :---: |
| Week 1 | 18 |
| Week 2 | 40 |
| Week 3 | 32 |
| Week 4 | 25 |

What is the total number of pennies Nolan saved during the four weeks? Show your work.

Enter your answer and your work in the space provided.
5. Each model equals one whole divided into equal parts. Which models show $\frac{1}{4}$ shaded?
Select the three correct answers.
(2)

(ㄹ)

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6. Cade has 4 boxes. He puts 9 model cars in each box.

What is the total number of model cars Cade put in these boxes?
Enter your answer in the box.

7. Which number line shows the correct location of the number $\frac{5}{3}$ ?
(ㄴ)

(B)

(c)

(D)


Use the information provided to answer Part A and Part B for question 8.

Cindy is finding the quotient for $27 \div 9$. She says, "The answer is 18 because addition is the opposite of division and $9+18=27$."
8. Part A

Identify the incorrect reasoning in Cindy's statement.
Enter your explanation in the space provided.

3rd Grade PARCC Unit 1 Practice Test Item \#8 (Non-Calculator): Standards 3.C.4-2, 3.0A.B. 06 (continued)

Part B
Show or explain how Cindy can correct her reasoning.
Find the quotient when 27 is divided by 9.
Enter your answer and your work or explanation in the space provided.

## 9. Select the three equations that are correct.

(a) $7 \times 9=63$
(1) $48 \div 8=6$
(C) $4 \times 9=38$
(2) $30+5=8$
(1) $42 \div 7=6$

## 3rd Grade PARCC Unit 1 Practice Test Item \#10 (Non-Calculator): Standard 3.MD.3-3

Use the information provided to answer Part A and Part B for question 10.

Mr. Conley delivers packages. The bar graph shows the total number of packages he delivered on five days last week.

10. Part $A$

What is the total number of packages Mr. Conley delivered on Monday and Tuesday?
(A) 300
(ㄷ) 340
(c) 350
(D) 360

## Part B

How many more packages did Mr. Conley deliver on Monday and Tuesday than he did on Thursday and Friday?

Enter your answer in the box.

11. Sandy draws a shape. She divides it into parts. Each part is $\frac{1}{8}$ the area of the shape. Which shape could be the one Sandy draws?
(2)

(ㄷ)

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(ㄷ)


3rd Grade PARCC Unit 1 Practice Test Item \#12 (Non-Calculator): Standard 3.MD.2-2
12. Carla buys apples and peaches at the store. The mass of the apples is 724 grams. The mass of the peaches is 471 grams.

How much greater is the mass, in grams, of the apples than the mass of the peaches?

Enter your answer in the box.


3rd Grade PARCC Unit 2 Practice Test Item \#13 (Non-Calculator): Standard 3.NF. 2
13. Which number line shows a point at $\frac{5}{6}$ ?
(a)

(B)

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(D)

14. Select the correct equation.
A. $35 \div 7=5$
B. $45 \div 5=8$
C. $3 \times 8=32$
D. $4 \times 7=21$
15. A model of a playground is shown.


Find the area, in square meters, of the playground. Explain your answer using an equation or equations.

Enter your answer and your explanation using your equation or equations in the space provided.
16. Which three statements can be represented by the expression $24 \div 4$ ?
(a) Jake makes 24 muffins. He gives away 4 muffins.
(1) Collin has 24 toy trucks. He sorts them into groups of 4 trucks each.
(c) Amira has 24 trading cards. She puts them into piles containing 4 cards each.
() Rosemary puts 24 stickers in each book. She uses enough stickers to fill 4 books.
(ㄷ) Steven fills a new bookshelf with 24 books. He puts the same number of books on each of the 4 shelves.
17. Which two ways show how to find the value of $7 \times 40$ ? Select the two correct answers.
(a) $7 \times 4$
(B) $4 \times 10$
(C) $7 \times 4 \times 10$
(D) 7 groups of 4 ones
(ㄷ) 7 groups of 4 tens

## 3rd Grade PARCC Unit 2 Practice Test Item \#18 (Non-Calculator): Standard 3.0A.8

Use the information provided to answer Part A and Part B for question 18.

Third-grade students took a total of 1,000 pictures for the yearbook during the school year.

- Ted took 72 pictures.
- Mary took 48 pictures.


## 18. Part $A$

What is the total number of pictures taken by the rest of the third-grade students during the school year?

Enter your answer in the box.


## Part B

Ella took 8 more pictures than Ted took. How many more pictures did Ella take than Mary?

Enter your answer in the box.

19. A tablet has a rectangular screen with a width of 7 inches and a length of 9 inches. Select the three ways to calculate the area of the screen, in square inches.
(a) $7 \times 7$
(ㄷ) $7 \times 9$
(c) $9 \times 7$
(D) $9 \times 9$
(5) $7+7+7+7+7+7+7$
(ㄷ) $9+9+9+9+9+9+9$
20. Gina's bedroom floor is in the shape of a rectangle. It is 10 feet long and 9 feet wide. What is the area of Gina's bedroom floor?
(a) 19 square feet
(0) 38 square feet
© 90 square feet
(0) 109 square feet

3rd Grade PARCC Unit 2 Practice Test Item \#21 (Non-Calculator): Standard 3.MD.2-1
21. Gwen pours about 3 liters of water into a container.

Which arrow shows about how much water Gwen poured into the container?

(a) Arrow 1
(a) Arrow 2
(C) Arrow 3
(D) Arrow 4
22. Select the two shapes that have parts that are each $\frac{1}{6}$ of the area of the whole shape.
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(ㅁ)

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(ㄷ)

23. Select the equation that is true when the number 8 is put into the box.
A. $64 \div \square=8$
B. $4 \times 4=\square$
C. $3 \times \square=27$
D. $\square \div 2=2$
24. Enter your answer in the box.
$746-397=$


Use the information provided to answer Part A and Part B for question 25.

An artist plans to paint a wall in a room. The wall is divided into 6 equal parts so that each part can be painted a different color.


## 25. Part A

The artist goes to the store to buy brushes and small cans of paint. He pays a total of $\$ 94$.

- He buys 8 brushes that cost $\$ 5$ each.
- The rest of the money is used for the 6 cans of paint. Each can of paint costs the same amount.

How much does each can of paint cost? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

3rd Grade PARCC Unit 3 Practice Test Item \#25 (Non-Calculator): Standards 3.D.1, 3.0A.3, 3.NF. 1 (continued)

## Part B

The artist starts painting the wall. The parts of the wall that look white are not painted yet.


Which statements about the wall are correct?
Select the two correct statements.
(A) Each painted part is $\frac{1}{4}$ of the whole wall.
(B) Each painted part is $\frac{1}{6}$ of the whole wall.
(c) Each painted part is $\frac{4}{4}$ of the whole wall.
(D) The fraction of the wall not yet painted is $\frac{1}{6}$.
(E) The fraction of the wall not yet painted is $\frac{2}{4}$.
(־) The fraction of the wall not yet painted is $\frac{2}{6}$.

## 3rd Grade PARCC Unit 3 Practice Test Item \#26 (Non-Calculator): Standard 3.Int. 2

Use the information provided to answer Part A and Part B for question 26.

Pablo goes to a stamp show where he can share, buy, and sell stamps.

## 26. Part A

The first day, Pablo starts with 744 stamps. He buys 27 stamps from his friend. He then sells 139 stamps.

What is the total number of stamps that Pablo has after the first day of the stamp show?

Enter your answer in the box.


## Part B

The second day, Pablo buys 6 packages of car stamps. Each package has 6 car stamps. Pablo shares these car stamps equally among himself and 3 friends.

What is the total number of car stamps that Pablo and each of his 3 friends receive?

Enter your answer in the box.


3rd Grade PARCC Unit 3 Practice Test Item \#27 (Non-Calculator): Standard 3.0A.3-3
27. Ken draws a rectangle with an area of 35 square inches. The width of the rectangle is 5 inches.

What is the length, in inches, of Ken's rectangle?
Enter your answer in the box.

28. Mia placed point $P$ on the number line.


- Give the value of the number $P$ as a fraction.
- What does the denominator of your fraction represent on the number line?
- What does the numerator of your fraction represent on the number line? Enter your answer and your explanation in the space provided.


## 29. Which three comparisons are true?

(A) $\frac{1}{3}=\frac{3}{6}$
(B) $\frac{3}{4}=\frac{6}{8}$
(c) $\frac{4}{8}=\frac{1}{2}$
(D) $\frac{1}{4}=\frac{4}{8}$
(ㄷ) $\frac{4}{6}=\frac{2}{3}$

3rd Grade PARCC Unit 4 Practice Test Item \#30 (Non-Calculator): Standard 3.G. 1

## 30. Which three shapes are quadrilaterals?

(9)

(D)

(c)

(D)

(c)

(

31.

$$
\frac{2}{6}<\square
$$

## Select the three fractions that make this comparison true.

(a) $\frac{3}{6}$
(I) $\frac{2}{8}$
(ㄷ) $\frac{2}{4}$
(D) $\frac{2}{3}$
(C) $\frac{1}{6}$

3rd Grade PARCC Unit 4 Practice Test Item \#32 (Non-Calculator): Standard 3.MD. 8
32. Lavina wants to place a fence around a rectangular play area for her rabbits. The play area will be 7 feet long and 4 feet wide.

What is the total length of fence, in feet, Lavina needs to place around the play area?

Enter your answer in the box.


3rd Grade PARCC Unit 4 Practice Test Item \#33 (Non-Calculator): Standards 3.C.4-7, 2.NBT.1, 2.NBT. 4

## 33. Part A

What is the number with the least value that can be made with the digits 6,7 , and 5 using all the digits only once?
(A) 576
(ㄷ) 657
(c) 675
(ㄷ) 567

## Part B

Daniel says the number with the greatest value he can make with the digits 5, 7, and 6 using the digits only once is 657 because the 7 is in the place with the greatest value.

- Explain why Daniel is not correct.
- What is the number with the greatest value he can make using all the digits only once?
- Explain how you know this number has the greatest value.

Enter your answer and your explanations in the space provided.

3rd Grade PARCC Unit 4 Practice Test Item \#34 (Non-Calculator): Standard 3.0A. 6
34. Connie solved the math problem shown.

$$
40 \div 8=?
$$

Which equation can Connie use to check her answer?
(2) $8+$ ? $=40$
(B) $40+8=$ ?
(c) $8 \times ?=40$
(2) $8 \times 40=$ ?

3rd Grade PARCC Unit 4 Practice Test Item \#35 (Non-Calculator): Standards 3.MD.3-1
35. Jana gets a sticker for every 5 minutes she spends on her chores each day. She puts them on a picture graph as shown.

| Jana's Chores |  |
| :---: | :---: |
| Day | Minutes of Chores |
| Monday |  |
| Tuesday | む |
| Wednesday |  |
| Thursday | $\hat{\rightharpoonup} \vec{\sim}$ |
| Friday |  |


| KEY |
| :---: |
| $\stackrel{\sim}{\omega}=5$ minutes |

Jana spends a total of 130 minutes doing chores during the week. How many stickers should Jana get on Friday?
(a) 5
(ㄷ) 7
(c) 19
() 35

## 3rd Grade PARCC Unit 4 Practice Test Item \#36 (Non-Calculator): Standards 3.C.1-3, 3.MD. 7

Use the information provided to answer Part A and Part B for question 36.

Tori and Leo set up their clubhouse with four tables. These rectangles represent the tabletops.


## 36. Part A

Identify two tabletops with the same area, in square feet, and explain how you know that the areas are equal.

Enter your answers and your explanation in the space provided.

3rd Grade PARCC Unit 4 Practice Test Item \#36 (Non-Calculator): Standards 3.C.1-3, 3.MD. 7 (continued)

## Part B

The grid shows Table C and Table D placed end to end to make a new, larger tabletop.


Tori uses the expression $3 \times(2+4)$ to find the total area of the new, larger tabletop.

Leo uses the expression $(3 \times 2)+(3 \times 4)$ to find the total area of the new, larger tabletop.

- Find the total area, in square feet, of the new, larger tabletop.
- Use the grid to explain why both Tori's expression and Leo's expression are correct.

Enter your answer and your explanation in the space provided.
37. Enter your answer in the box.

$$
3 \times 80=
$$


38. Jane bought 24 light bulbs. The light bulbs come in packs of 4 . How many packs of light bulbs did Jane buy?

Enter your answer in the box.


3rd Grade PARCC Unit 4 Practice Test Item \#39 (Non-Calculator): Standard 3.MD. 6
39. Which three figures each have an area of 12 square inches? Select the three correct answers.

$$
\square=\text { one square inch }
$$

(a)

(B)

©

(ㄷ)

(ㄷ)


## 3rd Grade PARCC Unit 4 Practice Test Item \#40 (Non-Calculator): Standard 3.Int. 1

Use the information provided to answer Part A and Part B for question 40.

The owners of a new toy store have 888 puzzles to sell.

- They sell 237 puzzles the first month.
- They sell 461 puzzles the second month.


## 40. Part A

Which of these shows the three given numbers, each rounded to the nearest 10 ?
(a) $880,230,470$
(B) $880,230,460$
(c) $890,240,470$
(ㄷ) $890,240,460$

## Part B

Use the rounded numbers to find about how many puzzles the owners have left to sell.

Enter your answer in the box.


3rd Grade PARCC Unit 4 Practice Test Item \#41 (Non-Calculator): Standard 3.0A.7-1

## 41. Which equations are true?

## Select the three correct answers.

(a) $7 \div 7=0$
(-) $3 \times 4=12$
(c) $10 \div 5=5$
() $16 \div 2=8$
(e) $0 \times 6=0$

3rd Grade PARCC Unit 4 Practice Test Item \#42 (Non-Calculator): Standard 3.NF.3c
42. Which number line shows a point at $\frac{8}{8}$ ?
(6)

(a)

(c)

(D)

43. Eric measures 10 leaves with a ruler. He records the lengths as shown. Lengths of Leaves (inches)

$$
5 \frac{1}{2}, 6 \frac{1}{2}, 6 \frac{1}{2}, 6,5 \frac{3}{4}, 5 \frac{1}{2}, 6,6,5 \frac{1}{2}, 6
$$

Which line plot shows the lengths of the leaves recorded correctly?
(a)

(B)

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()


3rd Grade PARCC COMPUTER-BASED Unit 1 (Non-calculator) Sample Test Item \#9:
Standard 3.OA.7-2

Enter your answers in the boxes.
$9 \times 9=\square$
$56 \div 8=\square$
$5 \times 6=\square$
$36 \div 9=\square$
$63 \div 7=\square$

## 3rd Grade PARCC COMPUTER-BASED Unit 1 (Non-calculator) Sample Test Item \#11: <br> Standard 3.G. 2

Use the More or Fewer buttons as many times as needed to divide the circle into 6 equal parts.
Then shade $\frac{1}{6}$ of the area of the circle.
Divide the figure into the correct number of equal parts by using the More and Fewer buttons. Then shade by selecting the part or parts.


## 3rd Grade PARCC COMPUTER-BASED Unit 1 (Non-calculator) Sample Test Item \#12:

Standard 3.MD.1-2

Kevin makes muffins.

- It takes 8 minutes to mix the batter.
- The muffins bake for 17 minutes.
- The muffins then cool for 5 minutes.

What is the total amount of time, in minutes, Kevin spends mixing, baking, and cooling the muffins?
Enter your answer in the box.


3rd Grade PARCC COMPUTER-BASED Unit 2 (Non-calculator) Sample Test Item \#2:
Standard 3.0A.7-2

Enter your answers in the boxes.
$7 \times 9=\square$
$30 \div 5=\square$
$4 \times 9=\square$
$48 \div 6=\square$
$42 \div 7=\square$

## 3rd Grade PARCC COMPUTER-BASED Unit 2 (Non-calculator) Sample Test Item \#3:

Standards 3.D.1, 3.0A. 8

Adam needs to put 19 pictures from Classroom A and 23 pictures from Classroom B on a bulletin board. He wants to display the pictures in an array.

## Part A

Select a box for each picture to create an array to represent the pictures on the bulletin board.


## Part B

Find the area of the array. Explain your answer using an equation or equations.
Enter your answer and your explanation using an equation or equations in the space provided.

$\square$


3rd Grade PARCC COMPUTER-BASED Unit 2 (Non-calculator) Sample Test Item \#7:
Standard 3.MD.7b-1

Drag and drop the correct area into the box below each shaded rectangle.

| 20 Square Feet | 24 Square Feet |
| :--- | :--- |
| 27 Square Feet | 28 Square Feet |
|  |  |



3rd Grade PARCC COMPUTER-BASED Unit 2 (Non-calculator) Sample Test Item \#9:
Standard 3.MD. 6

Which rectangle has an area of 24 square units?

$$
\square=1 \text { square unit }
$$

- A.

- C.

$\bigcirc$
B.

$\bigcirc$
D.



## 3rd Grade PARCC COMPUTER-BASED Unit 2 (Non-calculator) Sample Test Item \#10:

Standard 3.G. 2

Which shapes have parts that are $\frac{1}{8}$ the area of their whole shape?
Drag and drop the three correct shapes into the box.


3rd Grade PARCC COMPUTER-BASED Unit 3 (Non-calculator) Sample Test Item \#1:
Standard 3.OA. 4


3rd Grade PARCC COMPUTER-BASED Unit 3 (Non-calculator) Sample Test Item \#2:
Standard 3.NBT. 2

Enter your answer in the box.
$512+\square=568$

## 3rd Grade PARCC COMPUTER-BASED Unit 3 (Non-calculator) Sample Test Item \#7:

Standard 3.NF.3a-2

A fraction is shown on the number line.


Plot a point on this number line to show a fraction that is equivalent to the fraction shown on the other number line.

Select a place on the number line to plot the point.


3rd Grade PARCC COMPUTER-BASED Unit 4 (Non-calculator) Sample Test Item \#3:
Standard 3.MD. 8

The shape shown has a perimeter of 34 feet.


What is the length of the side that is missing a number?
Enter your answer in the box.


## 3rd Grade PARCC COMPUTER-BASED Unit 4 (Non-calculator) Sample Test Item \#5: <br> Standard 3.OA. 6

Bryan has 48 cupcakes in 6 boxes. Each box holds an equal number of cupcakes. Bryan uses this equation to find how many cupcakes are in each box.

$$
48 \div 6=?
$$

Create a different equation Bryan could use to find the number of cupcakes in each of the 6 boxes.
Select from the drop-down menus to correctly complete the equation.
$\square$
?6
7 X ..... 7
$\div$ 42
48
48

## 3rd Grade PARCC COMPUTER-BASED Unit 4 (Non-calculator) Sample Test Item \#11:

Standard 3.Int. 5

On a farm, there is a large storage tank that holds water.
Part A
Each day in May, 60 liters of water are used on the farm.
What is the total amount of water, in liters, used on the farm in 7 days?
Enter your answer in the box.


## Part B

The storage tank holds 500 liters of water when full.
During the first 5 days in January after the tank was filled, 386 liters of water were used on the farm.
What is the amount of water, in liters, that remains in the tank after those 5 days?
Enter your answer in the box.


