

# Illinois IAR Grade 3 Math Practice

Exam Materials

Pages 2 - 41

Answer Key Materials

Pages 42 - 49

**Directions:**

Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your test booklet. Do not make any pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely. If a question asks you to show or explain your work, you must do so to receive full credit. Only responses written within the provided space will be scored.

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### Directions for Completing the Answer Grids

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2. Write your answer in the boxes at the top of the grid.
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4. Under each box, fill in the circle that matches the number or symbol you wrote above. Make a solid mark that completely fills the circle.
5. Do not fill in a circle under an unused box.
6. See below for examples on how to correctly complete an answer grid.

### EXAMPLES

To answer 632 in a question, fill in the answer grid as shown below.

6	3	2			
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0
<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1
<input type="radio"/> 2	<input type="radio"/> 2	<input checked="" type="radio"/>	<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2
<input type="radio"/> 3	<input checked="" type="radio"/>	<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3
<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4
<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5
<input checked="" type="radio"/>	<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6
<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7
<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8
<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9

A brick path has 10 rows of 4 bricks. How many bricks are in the path?

Enter your answer in the box.

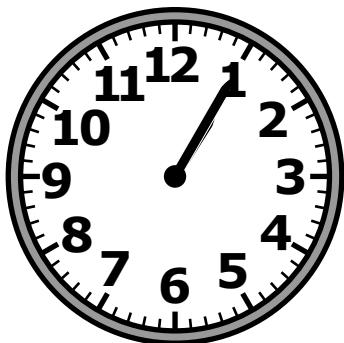
4	0				
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<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1
<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2
<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3
<input checked="" type="radio"/>	<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4
<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5
<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6
<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7
<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8
<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9

- Ⓐ A teacher puts 8 chairs at each of 4 tables.
- Ⓑ Tom buys 4 red markers and 8 black markers.
- Ⓒ Marie shares her 8 marbles equally among 4 friends.
- Ⓓ There are 4 rows of flowers. There are 8 flowers in each row.
- Ⓔ There are 8 ducks in the pond. Then, 4 more ducks join them.

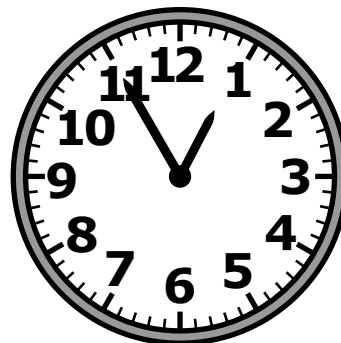
2. Ana starts eating lunch at 12:15 p.m. She finishes eating lunch 40 minutes later.

Which clock shows the time that Ana finishes eating lunch?

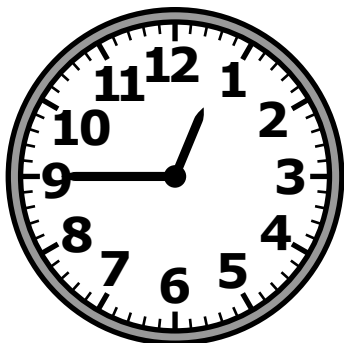
(A)



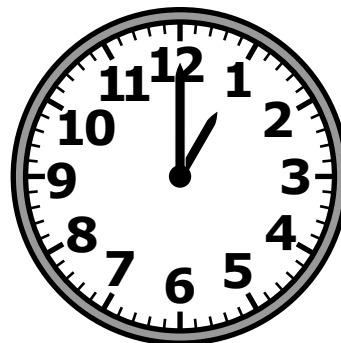
(B)



(C)



(D)



Enter your answer and your work in the space provided.

**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.

0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

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

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.

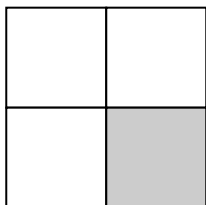
Enter your answer and your work in the space provided.



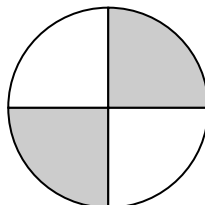
4. Each model equals one whole divided into equal parts. Which models show  $\frac{1}{4}$  shaded?

Select the **three** correct answers.

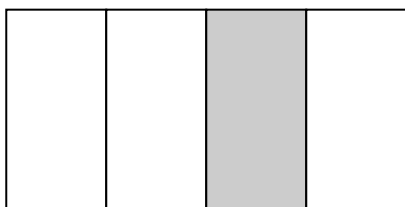
(A)



(B)



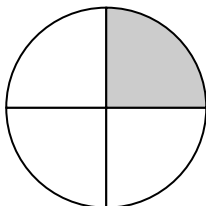
(C)



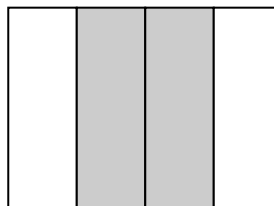
(D)



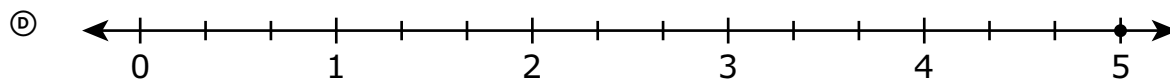
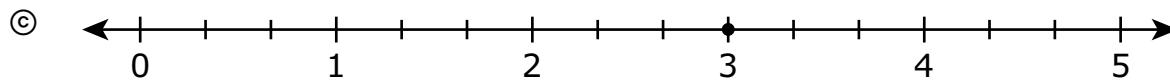
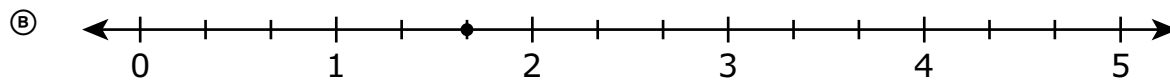
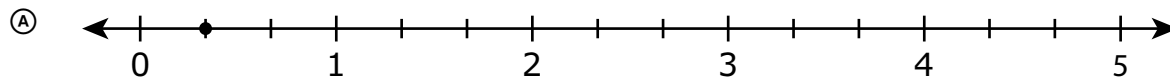
(E)



(F)



**5.** Which number line shows the correct location of the number  $\frac{5}{3}$ ?



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

Identify the incorrect reasoning in Cindy's statement.

Enter your explanation in the space provided.

**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.

●

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



## 8. Part A

What is the total number of packages Mr. Conley delivered on Monday and Tuesday?

- Ⓐ 300
- Ⓑ 340
- Ⓒ 350
- Ⓓ 360

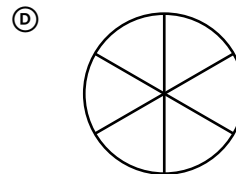
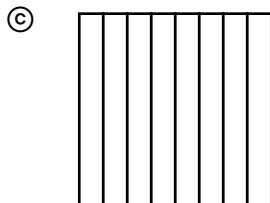
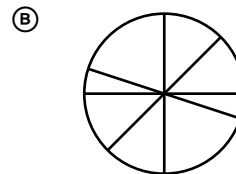
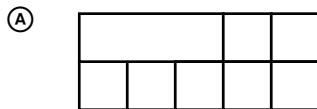
**Part B**

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.

0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

9. 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?

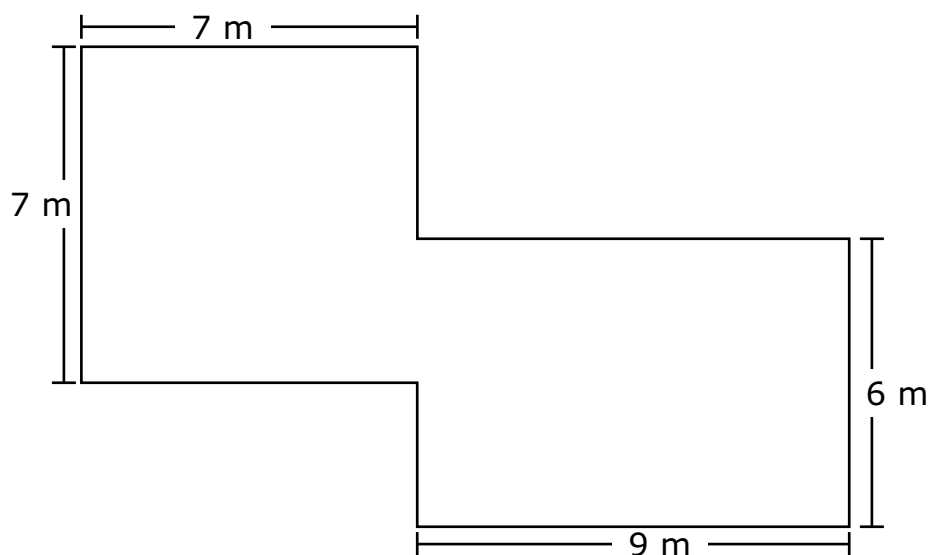


- How much greater is the mass, in grams, of the apples than the mass of the peaches?

●	●	●	●	●	●
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9



- 11.** 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.



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6	3	2			
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0	0	0	0	0	0
1	1	1	1	1	1
2	2	<input checked="" type="radio"/>	2	2	2
3	<input checked="" type="radio"/>	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
<input checked="" type="radio"/>	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

A brick path has 10 rows of 4 bricks. How many bricks are in the path?

Enter your answer in the box.

4	0				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0	<input checked="" type="radio"/>	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
<input checked="" type="radio"/>	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

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## Mathematics

Use the information provided to answer Part A and Part B for question 14.

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.

### 14. 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.

•	•	•	•	•	•
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

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

●	●	●	●	●	●
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

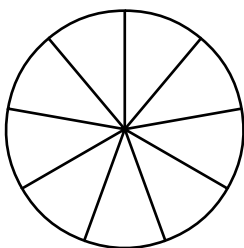
- (A)  $7 \times 7$
- (B)  $7 \times 9$
- (C)  $9 \times 7$
- (D)  $9 \times 9$
- (E)  $7 + 7 + 7 + 7 + 7 + 7 + 7$
- (F)  $9 + 9 + 9 + 9 + 9 + 9 + 9$

- 16.** 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?

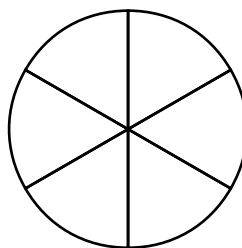
Ⓐ 19 square feet  
 Ⓑ 38 square feet  
 Ⓒ 90 square feet  
 Ⓓ 109 square feet

- 17.** Select the **two** shapes that have parts that are each  $\frac{1}{6}$  of the area of the whole shape.

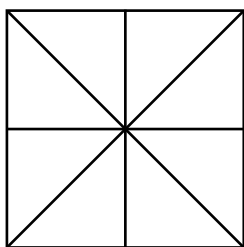
Ⓐ



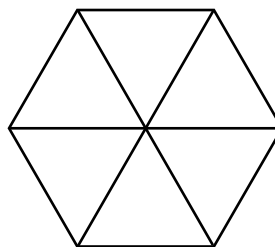
Ⓑ



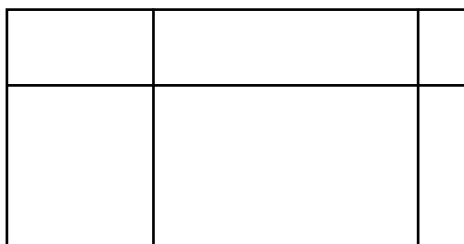
Ⓒ



Ⓓ



Ⓔ





- Ⓐ  $64 \div \square = 8$
- Ⓑ  $4 \times 4 = \square$
- Ⓒ  $3 \times \square = 27$
- Ⓓ  $\square \div 2 = 2$

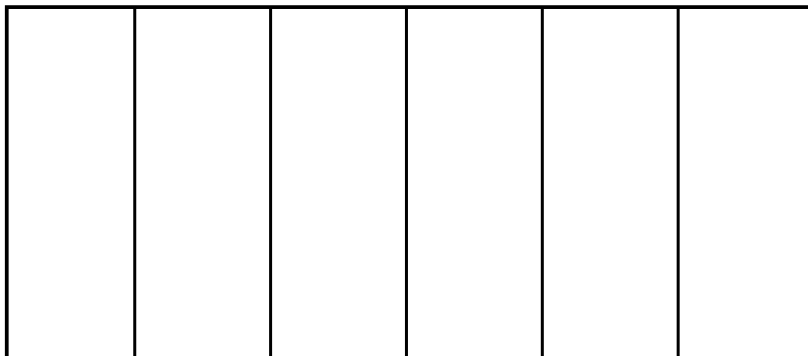
- $$746 - 397 =$$

●	●	●	●	●	●
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

Use the information provided to answer Part A and Part B for question 20.

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.

**Artist's Wall**



**20. Part A**

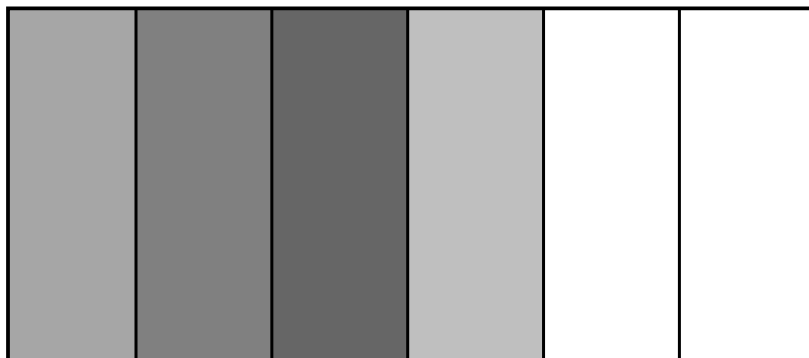
The artist goes to the store to buy brushes and small cans of paint. He pays a total of \$94.

- 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.

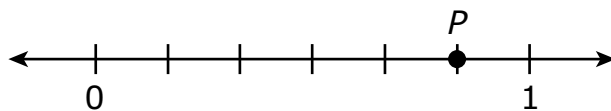
Enter your answer and your work or explanation in the space provided.

●



- Ⓐ Each painted part is  $\frac{1}{4}$  of the whole wall.
- Ⓑ Each painted part is  $\frac{1}{6}$  of the whole wall.
- Ⓒ Each painted part is  $\frac{4}{4}$  of the whole wall.
- Ⓓ The fraction of the wall not yet painted is  $\frac{1}{6}$ .
- Ⓔ The fraction of the wall not yet painted is  $\frac{2}{4}$ .
- Ⓕ The fraction of the wall not yet painted is  $\frac{2}{6}$ .

21. 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.

# Unit 3

**Directions:**

Today, you will take Unit 3 of the Grade 3 Mathematics Practice Test. You will not be able to use a calculator.

Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your test booklet. Do not make any pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely. If a question asks you to show or explain your work, you must do so to receive full credit. Only responses written within the provided space will be scored.

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6	3	2			
●	●	●	●	●	●
0	0	0	0	0	0
1	1	1	1	1	1
2	2	●	2	2	2
3	●	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
●	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

A brick path has 10 rows of 4 bricks.  
How many bricks are in the path?

Enter your answer in the box.

4	0				
●	●	●	●	●	●
0	●	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
●	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

22. Which **three** comparisons are true?

Ⓐ  $\frac{1}{3} = \frac{3}{6}$

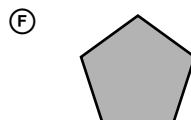
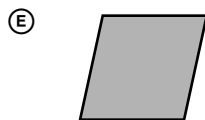
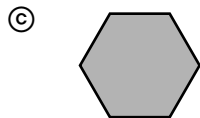
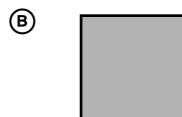
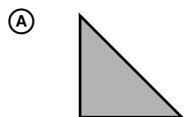
Ⓑ  $\frac{3}{4} = \frac{6}{8}$

Ⓒ  $\frac{4}{8} = \frac{1}{2}$

Ⓓ  $\frac{1}{4} = \frac{4}{8}$

Ⓔ  $\frac{4}{6} = \frac{2}{3}$

23. Which **three** shapes are quadrilaterals?



●



- 



25. 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.

0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

- 

## Jana's Chores

Day	Minutes of Chores					
Monday	★	★	★	★		
Tuesday	★	★	★	★	★	
Wednesday	★	★	★	★		
Thursday	★	★	★	★	★	★
Friday						

## KEY

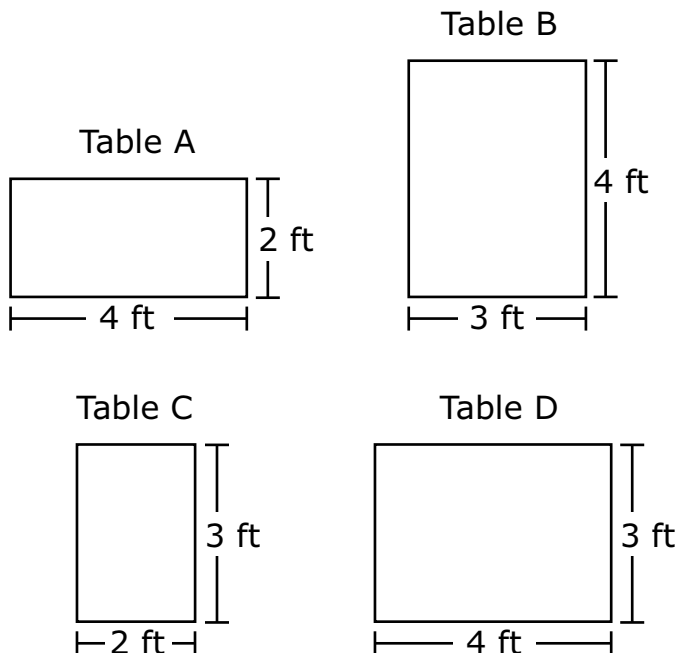
★ = 5 minutes

Jana spends a total of 130 minutes doing chores during the week. How many stickers should Jana get on Friday?

- Ⓐ 5
- Ⓑ 7
- Ⓒ 19
- Ⓓ 35

Use the information provided to answer Part A and Part B for question 27.

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



**27. 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.

C                  D

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

Enter your answer and your explanation in the space provided.

**Mathematics**

- 28.** 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.

•	•	•	•	•	•
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

Select the **three** correct answers.

**A**



## Mathematics

Use the information provided to answer Part A and Part B for question 30.

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.

### 30. Part A

Which of these shows the three given numbers, each rounded to the nearest 10?

- Ⓐ 880, 230, 470
- Ⓑ 880, 230, 460
- Ⓒ 890, 240, 470
- Ⓓ 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.

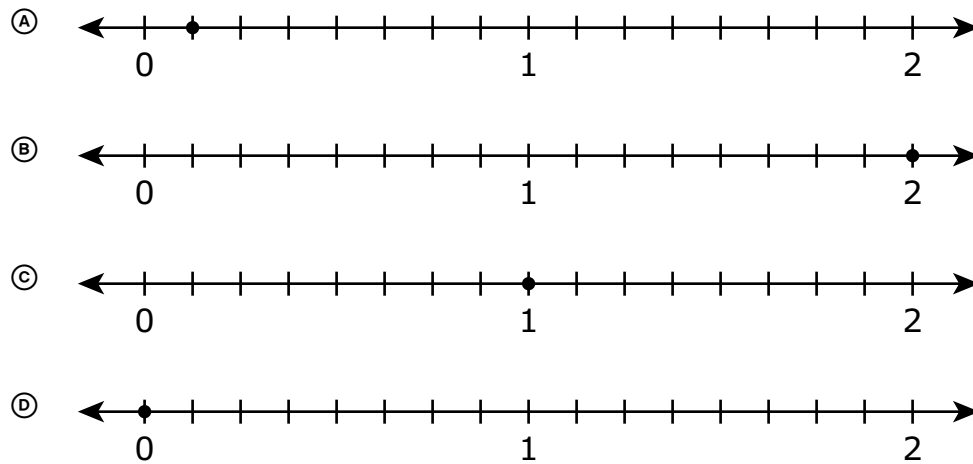
•	•	•	•	•	•
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

**31.** Which equations are true?

Select the **three** correct answers.

- Ⓐ  $7 \div 7 = 0$
- Ⓑ  $3 \times 4 = 12$
- Ⓒ  $10 \div 5 = 5$
- Ⓓ  $16 \div 2 = 8$
- Ⓔ  $0 \times 6 = 0$

**32.** Which number line shows a point at  $\frac{8}{8}$ ?





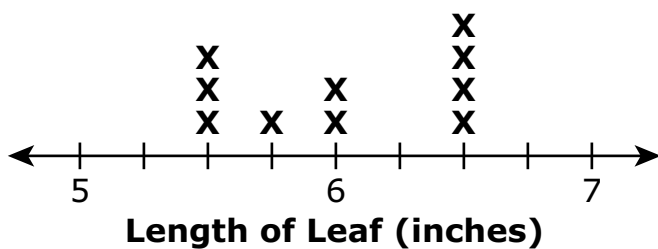
33. Eric measures 10 leaves with a ruler. He records the lengths as shown.

Lengths of Leaves (inches)

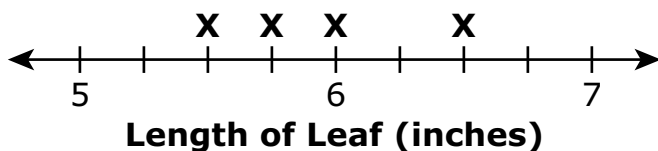
$$5\frac{1}{2}, 6\frac{1}{2}, 6\frac{1}{2}, 6, 5\frac{3}{4}, 5\frac{1}{2}, 6, 6, 5\frac{1}{2}, 6$$

Which line plot shows the lengths of the leaves recorded correctly?

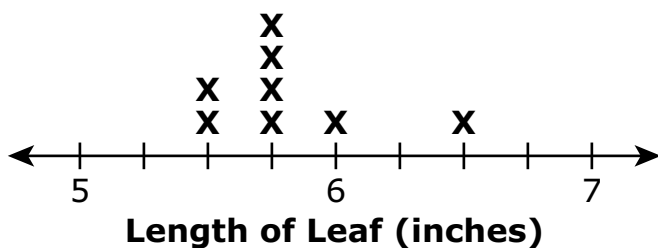
(A)



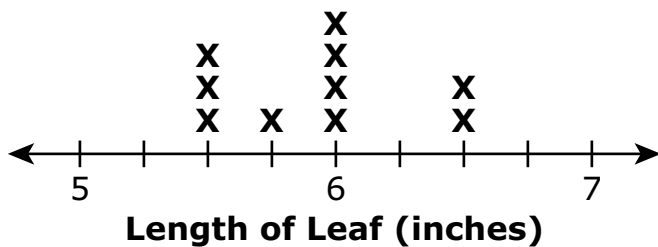
(B)



(C)



(D)



# Mathematics – Grade 3

## Practice Test Answer and Alignment Document

### Pencil-and-Paper ABO

The following pages include the answer key for all machine-scored items, followed by the rubrics for the hand-scored items.

- The rubrics show sample student responses. Other valid methods for solving the problem can earn full credit unless a specific method is required by the item.
- In items where the scores are awarded for full and partial credit, the definition of partial credit will be confirmed during range-finding (reviewing sets of real student work).
- If students make a computation error, they can still earn points for reasoning or modeling.

## Unit 1

Item Number	Answer Key	Evidence Statement Key/Content Scope
1.	<b>A, D</b>	3.OA.1
2.	<b>B</b>	3.MD.1-1
3.	Part A: see rubric Part B: see rubric Part C: see rubric	3.D.2/2.OA.1
4.	<b>A, C, E</b>	3.NF.1
5.	<b>B</b>	3.NF.2
6.	Part A: see rubric Part B: see rubric	3.C.4-2/3.OA.B.06
7.	<b>A, B, E</b>	3.OA.7-2
8.	Part A: <b>C</b> Part B: <b>50</b>	3.MD.3-3
9.	<b>C</b>	3.G.2

10.	<b>253</b>	3.MD.2-2
11.	See rubric	3.D.1/3.OA.8
12.	<b>B, C, E</b>	3.OA.2

## Unit 2

Item Number	Answer Key	Evidence Statement Key/Content Scope
13.	<b>C, E</b>	3.NBT.3
14.	Part A: <b>880</b> Part B: <b>32</b>	3.OA.8
15.	<b>B, C, F</b>	3.MD.7b-1
16.	<b>C</b>	3.OA.3-1
17.	<b>B, D</b>	3.G.2
18.	<b>A</b>	3.OA.4
19.	<b>349</b>	3.NBT.2
20.	Part A: see rubric Part B: <b>B, F</b>	3.D.1/3.OA.3 and 3.NF.1
21.	See rubric	3.C.6-1/3.NF.2b

## Unit 3

Item Number	Answer Key	Evidence Statement Key/Content Scope
22.	<b>B, C, E</b>	3.NF.3b-1
23.	<b>B, D, E</b>	3.G.1
24.	<b>A, C, D</b>	3.NF.3d
25.	<b>22</b>	3.MD.8
26.	<b>B</b>	3.MD.3-1
27.	Part A: see rubric	3.C.1-3/3.MD.7

	Part B: see rubric	
28.	<b>6</b>	3.OA.3-3
29.	<b>C, D, E</b>	3.MD.6
30.	Part A: <b>D</b> Part B: <b>190</b>	3.Int.1
31.	<b>B, D, E</b>	3.OA.7-1
32.	<b>C</b>	3.NF.3c
33.	<b>D</b>	3.MD.4

Rubrics start on the next page.

Unit 1 #3 Rubric Part A	
Score	Description
3	<p>Student response includes each of the following 3 elements.</p> <ul style="list-style-type: none"> <li>• Computation component: 85 pennies</li> <li>• Modeling component: shows correct use of addition</li> <li>• Modeling component: shows correct use of subtraction</li> </ul> <p>Sample Solution 1: Addition of pennies in two jars (<math>16 + 94 = 110</math>) and then subtraction of pencil price from that sum (<math>110 - 25 = 85</math>).</p> <p>Sample Solution 2: Subtraction of pencil price from pennies in one jar (<math>94 - 25 = 69</math>) and then addition of the pennies in the other jar to the difference (<math>69 + 16 = 85</math>).</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>○ Student can get credit for both parts with a single equation such as <math>16 + 94 - 25 = 85</math>.</li> <li>○ Student does not need to show an equation, but if an equation is used, the equation must be correct. (e.g., <math>16 + 94 = 110 - 25 = 85</math> is considered a nonsense equation and is NOT acceptable.)</li> </ul>
2	Student response includes 2 of the 3 elements. Or, the student has a computation error, but provides a valid strategy.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.
Unit 1 #3 Rubric Part B	
Score	Description
1	Computation component: 197
0	Student response is incorrect.
Unit 1 #3 Rubric Part C	
Score	Description
2	<p>Student response includes each of the following 2 elements.</p> <ul style="list-style-type: none"> <li>• Computation component: 115 pennies</li> <li>• Modeling component: The student shows a valid strategy to find the total number of pennies. For example, the student shows the equation <math>18 + 40 + 32 + 25 = 115</math>.</li> </ul>
1	Student response includes 1 of the 2 elements. Or, the student has as computation error, but provides a valid strategy.
0	Student response is incorrect or irrelevant.

Unit 1 #6 Rubric Part A	
Score	Description
1	Reasoning component: The student correctly identifies the error in Cindy's error. For example: "Cindy thought addition was the opposite of division."
0	Student response is incorrect or irrelevant.
Unit 1 #6 Rubric Part B	
Score	Description
2	<p>Student response includes each of the following 2 elements.</p> <ul style="list-style-type: none"> <li>Reasoning component: The student explains that multiplication is the opposite of division. For example: "To find the quotient of <math>27 \div 9</math>, I need to know what number when multiplied by 9 has a product of 27.</li> <li>Computation component: <math>27 \div 9 = 3</math></li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>The student does not need to use the term "unknown factor" in his or her explanation.</li> <li>The equation does not have to be provided to receive credit as long as the student shows clear understanding of using an unknown factor problem to find the answer to a division problem.</li> <li>The student may provide only the equation for the computation part.</li> <li>The student may earn credit for another valid explanation, such as repeated addition or subtraction.</li> <li>The computation may be embedded within the reasoning.</li> </ul>
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

Unit 1 #11 Rubric	
Score	Description
3	<p>Student response includes each of the following 3 elements.</p> <ul style="list-style-type: none"> <li>Computation component: Identifies the correct area of 103 square meters.</li> <li>Modeling component: Provides equations showing how to find the areas of the two sections of the playground.</li> <li>Modeling component: Provides an equation to find the total area of the playground.</li> </ul> <p>Sample Student Response:</p>

	<p>The total area is 103 square meters.</p> <p>The area is divided into two rectangles. If you add the area of the two rectangles, you will find the area of the whole playground.</p> $(7 \times 7) + (9 \times 6) = 49 + 54$ $49 + 54 = 103$ <p>Notes:</p> <ul style="list-style-type: none"> <li>Labeling the answer with square meters is not required. However, if the student provides a label which is incorrect, the student cannot earn the top score of 3.</li> <li>The student receives full credit for the modeling components for writing a single equation if the equation shows how to find the areas of the two sections and the total area of the playground, e.g. <math>(7 \times 7) + (9 \times 6) = 49 + 54 = 103</math>.</li> </ul>
<b>2</b>	<p>Student response includes 2 of the 3 elements. Or, the student does not compute the correct total area due to a computational error, but provides a valid strategy and valid equations, such as:</p> $(7 \times 7) + (9 \times 6) = 49 + 56$ $49 + 56 = 105$
<b>1</b>	Student response includes 1 of the 3 elements.
<b>0</b>	Student response is incorrect or irrelevant.

Unit 2 #20 Rubric Part A	
Score	Description
<b>2</b>	<p>Student response includes each of the following 2 elements.</p> <ul style="list-style-type: none"> <li>Computation component: Correctly finds the cost of each can of paint, \$9.</li> <li>Modeling component: Shows valid work or offers a valid explanation for finding the cost.</li> </ul> <p>Sample Student Response:</p> <p>To find the money spent on the paint, I multiplied the number of brushes by \$5. I then subtracted that number from \$94. The remaining amount is spent on paint. Since there are 6 sections, I divide \$54 by 6. So the cost of each can of paint is \$9.</p> <p>OR</p> $8 \times 5 = 40$ $94 - 40 = 54$ $54 \div 6 = 9$

	So the cost for each small can of paint is \$9.
<b>1</b>	Student response includes 1 of the 2 elements. Or, the student has a computation error, but gives a valid explanation or shows a valid process.
<b>0</b>	Student response is incorrect or irrelevant.
<b>Unit 2 #20 Rubric Part B</b>	
<b>Score</b>	<b>Description</b>
<b>1</b>	Student selects both B and F.
<b>0</b>	Student response is incorrect.

<b>Unit 2 #21 Rubric</b>	
<b>Score</b>	<b>Description</b>
<b>3</b>	<p>Student response includes each of the following 3 elements.</p> <ul style="list-style-type: none"> <li>• Computation component: States that Point P represents <math>\frac{5}{6}</math></li> <li>• Reasoning component: Correct explanation for what the denominator represents</li> <li>• Reasoning component: Correct explanation for what the numerator represents</li> </ul> <p>Sample Student Response:</p> <p>Point P is at <math>\frac{5}{6}</math> on the number line. The denominator represents the total number of equal parts between 0 and 1. There are six equal segments between 0 and 1 so each segment is <math>\frac{1}{6}</math>. The numerator represents the number of segments that the number is to the right of 0. So, if you count 5 segments of <math>\frac{1}{6}</math>, you end up at <math>\frac{5}{6}</math>.</p>
<b>2</b>	Student response includes 2 of the 3 elements.
<b>1</b>	Student response includes 1 of the 3 elements.
<b>0</b>	Student response is incorrect or irrelevant.

<b>Unit 3 #27 Rubric Part A</b>	
<b>Score</b>	<b>Description</b>
<b>2</b>	<p>Student response includes each of the following 2 elements.</p> <ul style="list-style-type: none"> <li>• Computation component: The student identifies Table B and Table D as having the same area.</li> </ul>



	<ul style="list-style-type: none"> <li>Reasoning component: The student explains that the areas are the same because <math>3 \times 4 = 4 \times 3</math>.</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>Use of the term "commutative property" is not required.</li> <li>Full credit for both computation and reasoning is awarded if student states "Tables B and D are both <math>4 \times 3 = 12</math> square feet."</li> </ul>
<b>1</b>	Student response includes 1 of the 2 elements.
<b>0</b>	Student response is incorrect or irrelevant.
Unit 3 #27 Rubric Part B	
<b>Score</b>	<b>Description</b>
<b>2</b>	<p>Student response includes each of the following 2 elements.</p> <ul style="list-style-type: none"> <li>Computation component: The student indicates that the total area of the combined tabletop is 18 square feet.</li> <li>Reasoning component: The student explains why both expressions are correct, such as, "The diagram shows you can either find the area of each table and add them together, <math>(3 \times 2) + (3 \times 4)</math>, or since they both have the same length, you can just add the 2 widths together and then multiply by the length, <math>3 \times (2 + 4)</math>."</li> </ul> <p>Note: Use of the term "distributive property" is not required.</p>
<b>1</b>	Student response includes 1 of the 2 elements.
<b>0</b>	Student response is incorrect or irrelevant.