### MASSACHUSETTS COMPREHENSIVE ASSESSMENT SYSTEM

# PRACTICE TEST Mathematics Grade 3

Student Name			
School Name			
 District Name			



# Grade 3 Mathematics SESSION 1

This session contains 8 questions.

You may **not** use a calculator during this session.



### **Directions**

Read each question carefully and then answer it as well as you can. You must record all answers in this Practice Test Booklet.

For some questions, you will mark your answers by filling in the circles in your Practice Test Booklet. Make sure you darken the circles completely. Do not make any marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely.

For other questions, you will need to fill in an answer grid. Directions for completing questions with answer grids are provided on the next page.

If a question asks you to show or explain your work, you must do so to receive full credit. Write your response in the space provided. Only responses written within the provided space will be scored.

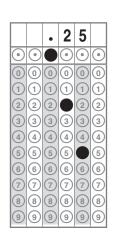
Mathematics Session 1

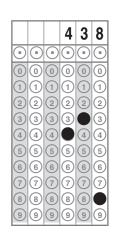
### **Directions for Completing Questions with Answer Grids**

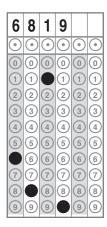
- 1. Work the question and find an answer.
- 2. Enter your answer in the answer boxes at the top of the answer grid.
- 3. Print only one number or symbol in each box. Do not leave a blank box in the middle of an answer.
- 4. Under each answer box, fill in the circle that matches the number or symbol you wrote above. Make a solid mark that completely fills the circle.
- 5. Do not fill in a circle under an unused answer box.
- 6. If you need to change an answer, be sure to erase your first answer completely.
- 7. See below for examples of how to correctly complete an answer grid.

### **EXAMPLES**

0	•	4	3	2	
$\odot$		0	0	$\odot$	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
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







1

A teacher asked a group of students, "What color is your backpack?" The teacher recorded the total numbers for each color in the table shown.

**Backpack Colors** 

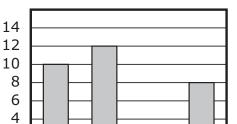
Color	Number of Backpacks
Black	10
Blue	13
Green	2
Red	9

Which of these bar graphs shows the total number for each color in the teacher's table?

 $\bigcirc$ 

Number of Backpacks

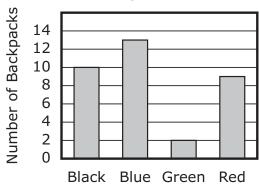
2



**Backpack Colors** 

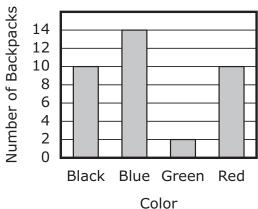
Black Blue Green Red Color  $^{\odot}$ 

### **Backpack Colors**



(C)

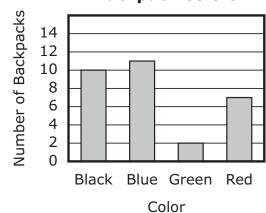
### **Backpack Colors**



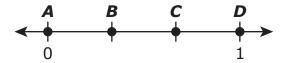
(1)

### **Backpack Colors**

Color



Which point represents the location of  $\frac{2}{3}$  on this number line?



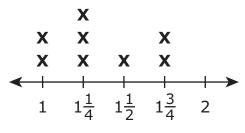
- $^{ ext{(A)}}$  point  $^{ ext{(A)}}$
- © point C
- point D

3 This list shows the lengths, in inches, of some stickers.

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

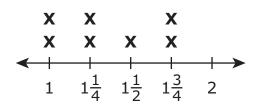
Which line plot shows the number of stickers of each length?

Sticker Lengths



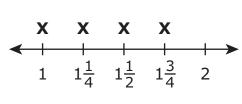
Length (inches)

**Sticker Lengths** 



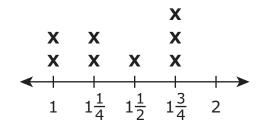
Length (inches)

**©** Sticker Lengths



Length (inches)

Sticker Lengths



Length (inches)

4

Which of these show a way to find the value of this expression?

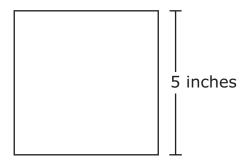
$$2 \times 30$$

Select the **two** correct answers.

- A 2 x 3
- ® 3 × 10
- ① 2 × 3 × 10

5

A builder is using square tiles to make a design. The design will have an area of 75 square inches. Each tile is the same size. One of the square tiles and its measurement is shown.



Which of these statements about the square tiles are true?

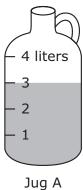
Select the **two** correct answers.

- A The area of each square tile is 20 square inches.
- ® The area of each square tile is 25 square inches.
- © The length of each side of a square tile is 10 inches.
- ① The builder will need 3 of the square tiles to make the design without gaps or overlaps.
- © The builder will need 4 of the square tiles to make the design without gaps or overlaps.

In which model does the shaded part represent  $\frac{1}{6}$  of the area of the figure?

B \_\_\_\_\_\_

A scientist filled two jugs with different amounts of water, as shown.



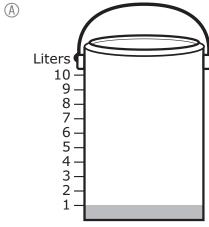


Jug B

The scientist will pour the water from both jugs into a bucket.

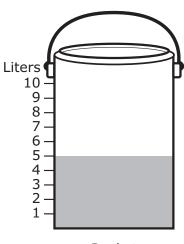
Which of these shows the total amount of water, in liters, that will be in the bucket?





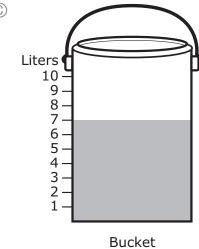
Bucket



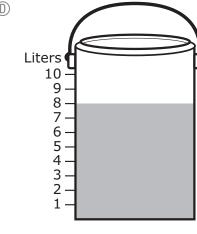


**Bucket** 

(C)



**(** 





A pet store has 5 fish tanks with 10 fish in each tank. A shopper buys 8 fish and takes them home.

After the shopper leaves the store, what is the total number of fish left in the pet store's tanks?

- A 23
- B 42
- © 50
- ① 58

# Grade 3 Mathematics SESSION 2

This session contains 8 questions.

You may **not** use a calculator during this session.



### **Directions**

Read each question carefully and then answer it as well as you can. You must record all answers in this Practice Test Booklet.

For some questions, you will mark your answers by filling in the circles in your Practice Test Booklet. Make sure you darken the circles completely. Do not make any marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely.

For other questions, you will need to fill in an answer grid. Directions for completing questions with answer grids are provided on the next page.

If a question asks you to show or explain your work, you must do so to receive full credit. Write your response in the space provided. Only responses written within the provided space will be scored.

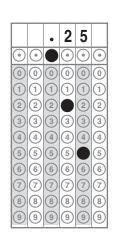
Mathematics Session 2

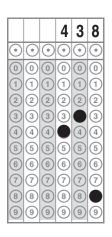
### **Directions for Completing Questions with Answer Grids**

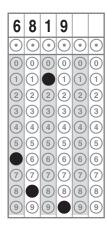
- 1. Work the question and find an answer.
- 2. Enter your answer in the answer boxes at the top of the answer grid.
- 3. Print only one number or symbol in each box. Do not leave a blank box in the middle of an answer.
- 4. Under each answer box, fill in the circle that matches the number or symbol you wrote above. Make a solid mark that completely fills the circle.
- 5. Do not fill in a circle under an unused answer box.
- 6. If you need to change an answer, be sure to erase your first answer completely.
- 7. See below for examples of how to correctly complete an answer grid.

### **EXAMPLES**

0	•	4	3	2	
0		0	0	0	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
(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





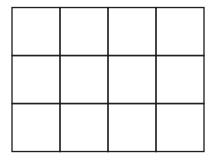


**9** Find the quotient.

Enter your answer in the answer boxes at the top of the answer grid **and** completely fill the matching circles.

$\odot$	$\odot$	$\odot$	$\odot$	$\odot$	$\odot$
0 1 2 3 4 5 6	1 2 3 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	(4) (5)	1 2 3 4	2 3 4 5	3 4 5
6 7 8 9	7 8	$\simeq$	7 8	$\overline{}$	7

A closet floor is covered with tiles that each have an area of 1 square foot. The floor is in the shape of a rectangle, as shown.



Key		
=	= 1 square foot	

Which equation can be used to find A, the total area, in square feet, of the floor?

- $\triangle$  A = 3 + 4
- (B) A = 3 4
- $\bigcirc$   $A = 3 \times 4$
- ①  $A = 3 \div 4$
- There are 6 children on a bus. Each child is wearing a hat.

What **fraction** of the children on the bus are wearing a hat?

- $\bigcirc$   $\frac{1}{6}$
- $\mathbb{B} \frac{2}{6}$
- ©  $\frac{5}{6}$
- $\bigcirc$   $\frac{6}{6}$

Mathematics Session 2

This table shows the number of shells collected by four students at the beach last summer.

### **Shells Collected**

Student	Number of Shells
Mary	12
Tim	16
Ethan	8
Kristen	4

Which picture graph shows the number of shells collected by each student at the beach last summer? Be sure to use the key.

### **Shells Collected**

Student	Number of Shells
Mary	
Tim	
Ethan	
Kristen	0000

	KEY
Each	represents 4 shells.

## **Shells Collected**

Student	Number of Shells
Mary	0000
Tim	
Ethan	0000
Kristen	

	KEY
Each	represents 4 shells.

### © Shells Collected

Student	Number of Shells
Mary	$\bigcirc\bigcirc\bigcirc\bigcirc$
Tim	0000
Ethan	
Kristen	

KEY				
Each 🔘	represents 4 shells.			

### Shells Collected

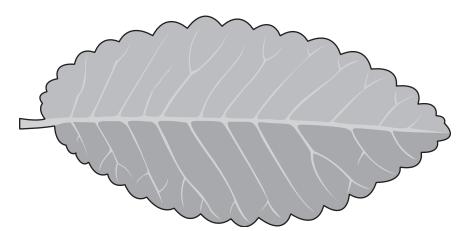
Student	Number of Shells
Mary	
Tim	$\bigcirc\bigcirc\bigcirc\bigcirc$
Ethan	
Kristen	

KEY					
Each		represents 4 shells.			

**(B)** Which of these subtraction problems is solved correctly?

Use your ruler to answer question 14.

What is the length, to the nearest one-half inch, of this leaf?

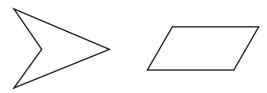


- $\bigcirc$  3 $\frac{1}{2}$  inches
- B 4 inches
- $\bigcirc$  4 $\frac{1}{2}$  inches
- ① 5 inches



Mr. Jacobs showed these shapes to his class.





Which word describes **all** of the shapes?

- A squares
- B triangles
- © rectangles
- ① quadrilaterals

### This question has three parts.

**16** 

Kevin is cutting oranges and apples into smaller pieces.

### Part A

Kevin cuts each orange into fourths. He has already cut 12 fourths.

How many oranges has Kevin cut so far? Show or explain how you got your answer.

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

### Part B

Altogether, Kevin will have cut 8 oranges into fourths.

How many fourths will Kevin have cut in all? Show or explain how you got your answer.

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

### Part C

Kevin has 8 apples. He will cut each apple into sixths.

Will Kevin have more orange pieces or apple pieces? Show or explain how you got your answer.

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