

# Grade 3 Math Practice Test 2013-2014



For further information, contact: Louisiana Department of Education's Help Desk 1-877-453-2721 Ask LDOE? http://www.louisianabelieves.com/resources/contact-us

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# *i*LEAP Practice Test—Grade 3 Math

# **Test Administrator Instructions**

★ This document contains a Practice Test that shows what each part, or session, of an actual grade 3 math assessment is like.

The Practice Test may be used at home or at school for students to become familiar with the *i*LEAP test they will take in spring 2014. It may help students feel more relaxed when they take the actual test.

★ The Assessment Structure provides information on the overall design of the actual test. The Assessment Structure and example items can be found on the Louisiana Department of Education's website.

http://www.louisianabelieves.com/resources/library/assessment-guidance-2013-2014

The mathematics test has three sessions to be taken separately:

- Session 1 (pages 3 to 17) includes 30 multiple-choice questions—a calculator may not be used.
- Session 2 (pages 19 to 31) includes 20 multiple-choice questions—a calculator may be used.
- Session 3 (page 33) includes 1 constructed-response question—a calculator may be used.
- ★ A Mathematics Reference Sheet, which students may use for all sessions, is located on page 36.
- ★ Students respond to multiple-choice items using the Answer Sheets on pages 34 and 35 and a constructed-response item using page 33 of Session 3.
- ★ The Answer Keys and Scoring Rubric, used to score student responses, are located on pages 37 to 39.

When printing the PDF files for the three Math Sessions, be sure to set the *Page Scaling* drop-down menu on the Print screen to <u>None</u>, <u>No Scaling</u>, or <u>Actual Size</u> depending on the printer you are using. Otherwise, measurement items may not be the correct size, which may impact student responses.



# Math-Sessions 1, 2, and 3 GENERAL INSTRUCTIONS

The Math test has three sessions, two with multiple-choice questions and one with a constructed-response question. You may **not** use a calculator for session 1, but you may use a calculator for sessions 2 and 3.

Write your answers for questions 1 through 30 in the spaces provided on page 34, session 1 answer sheet. Write only one answer for each question. You may work problems in your test booklet or on scratch paper, but you must mark your answer on your answer sheet. You may review your work in this session, but do not work on any other session.



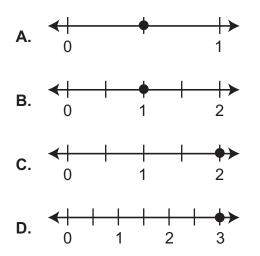
You may NOT use a calculator for this session.

1. Terri and Mike each bought 70 donuts from a bakery. The total number of donuts they bought can be found using the expression shown below.

#### 2 × 70

What is the total number of donuts Terri and Mike bought from the bakery?

- A. 72 donuts
- B. 104 donuts
- **C.** 140 donuts
- **D.** 270 donuts
- 2. Vince covered  $\frac{2}{1}$  cakes with frosting. He marked a point on a number line to show how many cakes he covered with frosting. Which number line shows the point Vince marked?



- **3.** Sanders ran for 22 minutes. Gabe ran 7 minutes longer than Sanders did. Helen ran 12 minutes less than Gabe. For how many minutes did Helen run?
  - **A.** 3 minutes
  - **B.** 17 minutes
  - C. 27 minutes
  - **D.** 41 minutes
- **4.** Maria spends \$9 on lunch each day she is at work. To find how much money she spends on lunch during a 5-day workweek she solves the expression below.

#### 5 × 9

How much money does Maria spend on lunch during a 5-day workweek?

- **A**. \$40
- **B**. \$45
- **C**. \$50
- **D**. \$59
- 5. Anita ran part of a 1-mile relay race. The part of the race she ran is shown on the number line below.



Anita started at point X and finished at point Y. What fraction of the 1-mile relay race did she run?

**A.**  $\frac{1}{6}$  **B.**  $\frac{1}{5}$  **C.**  $\frac{2}{7}$ **D.**  $\frac{4}{6}$ 

6. Samantha has 342 baseball cards. Perry has 184 baseball cards. The difference between the number of baseball cards Samantha and Perry have can be found by solving the expression below.

#### 342 - 184

How many more baseball cards does Samantha have than Perry?

- **A**. 158
- **B.** 162
- **C**. 242
- **D.** 268
- 7. Maggie bought 56 straws. For days her family used 7 new straws each day. Maggie used the number sentence below to find how many days the family took to use all the straws.

#### 56 ÷ 🗌 = 7

How many days did Maggie's family take to use all the straws?

- A. 8 days
- **B.** 27 days
- **C.** 49 days
- **D.** 63 days
- 8. Wendy bought 30 packs of gum. Each pack had 5 pieces. She used the expression below to find the number of pieces of gum she bought.

#### 30 × 5

Which other expression could Wendy use to find the number of pieces of gum she bought?

- **A.** 3 × 5 + 10
- **B.** 3 × 5 × 10
- **C.** 3 × 10 + 5
- **D.** 3 + 10 + 5

9. The width, in inches, of three of Yi's buttons are shown in the table.

Yi's Buttons		
Buttons	Width (inches)	
blue	<u>3</u> 4	
red	<u>3</u> 8	
green	<u>6</u> 8	

Which statement about the widths of Yi's buttons must be true?

- **A.** The width of the blue button is less than the width of the red button because  $\frac{3}{4} < \frac{3}{9}$ .
- **B.** The width of the red button is less than the width of the green button because  $\frac{3}{8} < \frac{6}{8}$ .
- **C.** The width of the blue button is equal to the width of the red button because  $\frac{3}{4} = \frac{3}{8}$ .
- **D.** The width of the green button is greater than the width of the blue button because  $\frac{6}{8} > \frac{3}{4}$ .
- **10.** Polly set up chairs for a meeting. She set up 7 rows of chairs. There were 9 chairs in each row. The number of chairs Polly set up for the meeting can be found by solving the expression below.

#### 9 × 7

How many chairs did Polly set up for the meeting?

- A. 53 chairs
- B. 61 chairs
- C. 63 chairs
- D. 79 chairs

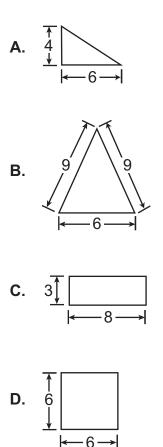
- **11.** Liam broke a candy bar into equal pieces. He gave away  $\frac{3}{3}$  of it. Which number is equal to the fraction of the candy bar Liam gave away?
  - **A.** 1
  - **B.** 3
  - **C**. 6
  - **D**. 9
- Michelle has 7 packages of crayons. Each package has Crayons. She has a total of 42 crayons. Michelle uses the number sentence below to find how many crayons are in each package.

#### 7 × 🗌 = 42

How many crayons are in each of Michelle's packages?

- A. 6 crayons
- **B.** 8 crayons
- C. 35 crayons
- D. 49 crayons
- **13.** Milan is giving away 18 stickers to 3 of his friends. He gives each friend the same number of stickers. One of the friends, Nelly, already had 2 stickers. Which number sentence can be used to find the total number of stickers, *n*, Nelly has?
  - **A.**  $18 3 \times 2 = n$
  - **B.** 18 3 + 2 = *n*
  - **C.** 18 ÷ 3 + 2 = *n*
  - **D.** 18 ÷ 3 × 2 = *n*

**14.** Vang multiplies two numbers. His answer is 24. Which figure could model Vang's multiplication?



**15.** A package of paper towels has 12 rolls of paper towels in it. Mr. Kelly will put an equal number of rolls of paper towels in 4 rooms. He uses the number sentence below to find the number of rolls of paper towels, *t*, he will put in each room.

12 ÷ *t* = 4

Which number sentence can Mr. Kelly use to find the number of rolls of paper towels, *t*, he will put in each room?

- **A.** 4 ÷ 12 = *t*
- **B.** 4 − *t* = 12
- **C.** 4 + 12 = *t*
- **D.** 4 × *t* = 12

- 16. Jimmy and Kima are going on a trip. They will drive for three days. The first day they will drive 182 miles. The second day they will drive 439 miles. The third day they will drive 217 miles. Which expression is the **closest** estimate of how many miles Jimmy and Kima will drive on their trip?
  - **A.** 100 + 400 + 200
  - **B.** 200 + 400 + 200
  - **C.** 200 + 500 + 200
  - **D.** 200 + 500 + 300
- **17.** Brooke's baby, Ryan, weighed 7 pounds when he was born. Brooke weighed her baby each month after he was born. Ryan's weight each month, in pounds, is shown in the table below.

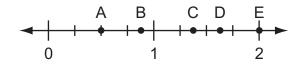
Age	Weight (pounds)
birth	7
1 month	9
2 months	11
3 months	13
4 months	15

#### Ryan's Weight

Which statement about the weight of the baby is true?

- A. The baby gained 1 pound each month.
- **B.** The baby gained 2 pounds each month.
- **C.** The baby gained 9 pounds in the first month.
- **D.** The baby gained 15 pounds in the last month.

**18.** Jason is measuring the lengths of different insects, in inches. He plots the lengths on the number line below.



The length of the first insect Jason measured is  $\frac{6}{8}$  of an inch. Between which two points on the number line is the location of the length of the first insect?

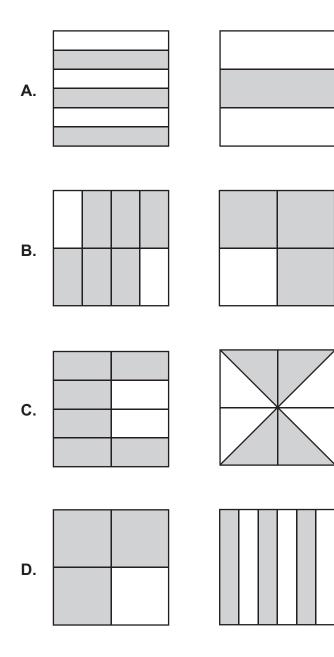
- **A.** points A and B
- **B.** points B and C
- C. points C and D
- **D.** points D and E
- **19.** Shodi earned 389 points in the first level of her video game. She earned 116 more points in the bonus round. The total number of points Shodi earned can be found by solving the expression below.

#### 389 + 116

How many total points did Shodi earn?

- **A**. 405
- **B.** 495
- **C**. 505
- **D**. 595

20. Which pair of squares has the same fraction shaded?



**21.** Ms. Fisher wants to find the total number of markers needed for an art project. She uses the expression below to find how many markers she needs.

#### (2 × 6) × 8

Which expression is equal to the one used by Ms. Fisher?

- **A.** 2 + (6 + 8)
- **B.** 2 + (6 × 8)
- **C.** 2 × (6 + 8)
- **D.**  $2 \times (6 \times 8)$
- **22.** There are four baseball teams. Each team has played some of its games this season. The fractions of games won are shown in the table below. The fractions of games won are also represented by the number lines in the table.

Team	Fraction of Games Won	Number Line
Bison	<u>2</u> 2	
Eagles	<u>2</u> 4	E 0 1
Knights	<u>4</u> 6	K ← + + + + + + + + + + + + + + + + + + +
Sharks	<u>4</u> 8	S ↔ 0 S + + + + + + + + + + + + +

#### **Baseball Teams**

Two teams have won the same fraction of games. Which sentence explains how the number lines show this?

- **A.** The Bison and the Eagles are each 2 spaces from 0.
- **B.** The Knights and the Sharks are each 4 spaces from 0.
- **C.** The Eagles and the Knights are each the same distance from 1.
- **D.** The Eagles and the Sharks are each the same distance from 0 and 1.

**23.** Addison has 72 CDs. She put the same number of CDs into each of her 8 CD cases. The total number of CDs Addison put into each case can be found by solving the expression below.

#### 72 ÷ 8

How many CDs did Addison put into each case?

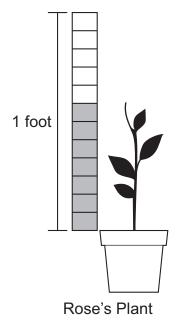
- **A.** 7 CDs
- **B.** 9 CDs
- **C.** 12 CDs
- **D.** 16 CDs
- 24. Carmen has 4 tomatoes she will eat this week. The weight, in pounds, of each tomato is shown on the number line below.



The first tomato Carmen will eat weighs  $\frac{2}{8}$  of a pound. Which point on the number line represents the first tomato Carmen will eat?

- **A.** J
- **B.** K
- **C**. L
- **D.** M

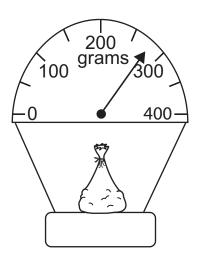
**25.** In science class, Rose kept track of the height of her plant. The height of her plant after 3 weeks is shown in the picture below.



What fraction of a foot is the height of Rose's plant?

- **A**.  $\frac{5}{7}$
- **B**.  $\frac{7}{5}$
- **c**.  $\frac{5}{12}$
- **D.**  $\frac{7}{12}$

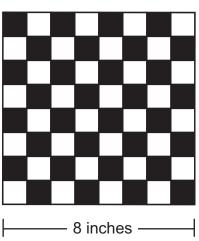
- **26.** Which story problem can be solved using the expression  $3 \times 4$ ?
  - A. Missy, Margo, and Davis buy some pears at the store. They each buy 4 pears. How many pears do they have altogether?
  - B. Missy lives 3 miles from school. Kerry lives 4 miles from school. How much farther does Kerry live from school than Missy?
  - **C.** Missy, Liz, Dao, and Larry have a total of 4 feet of rope. They each have the same length of rope. How much rope does each person have?
  - D. Missy has 3 pounds of strawberries.
    She gives the same amount to each of 4 friends.
    How many pounds of strawberries does each friend get?
- **27.** Bob is buying gummy bears at the grocery store. He places his bag of gummy bears on the scale shown below.



What is the **best** estimate of the mass, in grams, of Bob's gummy bears?

- **A.** 250 grams
- **B.** 275 grams
- **C.** 325 grams
- **D.** 350 grams

**28.** A drawing of a square checkerboard is shown.

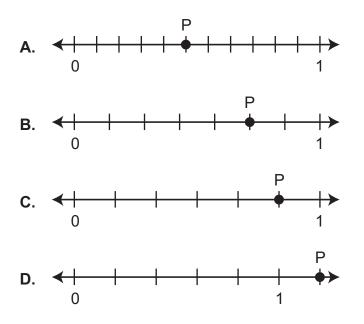


The length of each side of the checkerboard is 8 inches. All of the black and white squares are the same size. What is the perimeter of one of the black squares on the checkerboard?

- A. 1 inch
- B. 4 inches
- C. 32 inches
- D. 64 inches

#### Checkerboard

**29.** Paula finished  $\frac{5}{6}$  of her homework. Which number line marks the fraction of Paula's homework that is finished with point P?



- **30.** Randy and Chrissy eat some of the blueberries from a package for a snack. Randy eats  $\frac{1}{4}$  of the blueberries from the package. Chrissy eats  $\frac{1}{3}$  of the blueberries from the package. Which statement about the amount of blueberries Randy and Chrissy each eat is true?
  - **A.** Since the two fractions do not refer to the same whole, it is not possible to tell who eats more blueberries.
  - **B.** Since fractions that have different denominators cannot be compared, it is not possible to tell who eats more blueberries.
  - **C.** Since smaller denominators mean bigger fractions, then  $\frac{1}{3} > \frac{1}{4}$ , which means Chrissy eats more blueberries than Randy.
  - **D.** Since bigger denominators mean bigger fractions, then  $\frac{1}{4} > \frac{1}{3}$ , which means that Randy eats more blueberries than Chrissy.



# Math-Sessions 1, 2, and 3 GENERAL INSTRUCTIONS

The Math test has three sessions, two with multiple-choice questions and one with a constructed-response question. You may **not** use a calculator for session 1, but you may use a calculator for sessions 2 and 3.

Write your answers for questions 31 through 50 in the spaces provided on page 35, session 2 answer sheet. Write only one answer for each question. You may work problems in your test booklet or on scratch paper, but you must mark your answer on your answer sheet. You may review your work in this session, but do not work on any other session.



You MAY use a calculator for this session.

**31.** Skyler has two groups of quadrilaterals. The first group has quadrilaterals with angles that all have the same measure. The second group has quadrilaterals with sides that all have the same length. Which quadrilateral does Skyler **not** have?







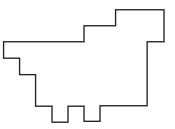
D.

#### 32. Use the number pattern below to answer the question.

24, 41, 58, 75, 92

Which statement about the number pattern is true?

- **A.** The rule is Add 3 to the second digit.
- B. The rule is Add 23 to the last number.
- C. An even number is added to find the next number.
- D. An odd number is added to find the next number.
- 33. Dia made a drawing. Her drawing is shown below.

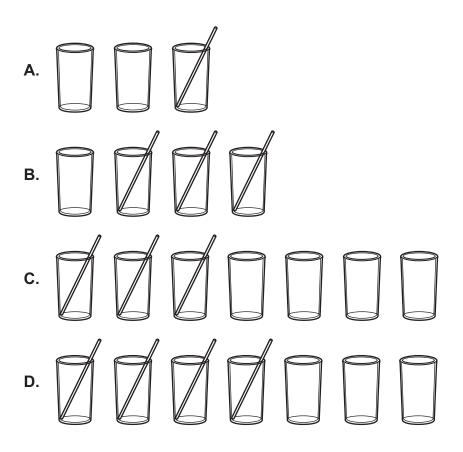


Which figure can be used to measure the area of Dia's drawing?

A. •

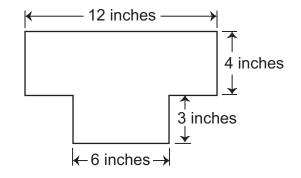
- B. –
- **C**. △
- D. 🗌

**34.** Meg put a straw in  $\frac{3}{4}$  of the glasses on a table. Which model could show all the glasses on the table after Meg put in the straws?



- **35.** Dirk drew a shape. The shape has exactly 4 angles. The angles are **not** all the same size. Which shape could be the shape Dirk drew?
  - A. parallelogram
  - B. rectangle
  - C. square
  - D. triangle

- **36.** Peter is in a group of 25 people. All 25 people went fishing in boats. There were 5 people in each boat. How can Peter find the number of boats the group used?
  - **A.** Add 5 to 25
  - B. Divide 25 by 5
  - **C.** Multiply 25 by 5
  - **D.** Subtract 5 from 25
- 37. Dezi made a poster in the shape shown below.



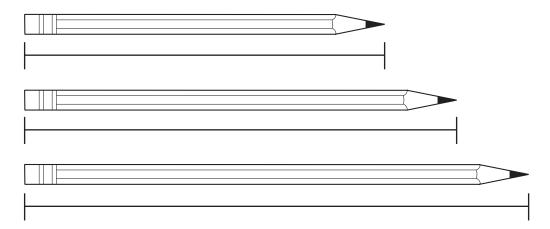
What is the area, in square inches, of Dezi's poster?

- **A.** 25 square inches
- **B.** 32 square inches
- **C.** 48 square inches
- **D.** 66 square inches

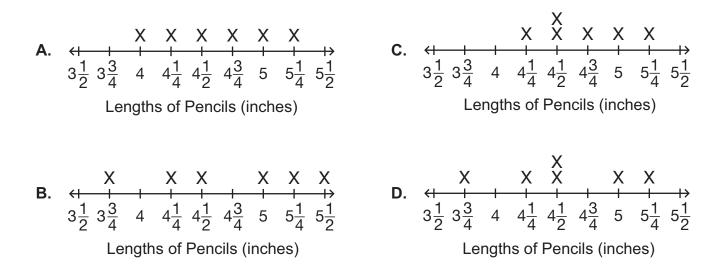
38. Chuck has six pencils. The lengths of three of his pencils are listed below.

$$4\frac{1}{2}$$
 inches, 5 inches,  $4\frac{1}{4}$  inches

The length of Chuck's other three pencils are shown in the diagram below.

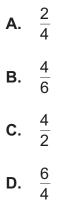


Which line plot shows the lengths, in inches, of Chuck's six pencils?

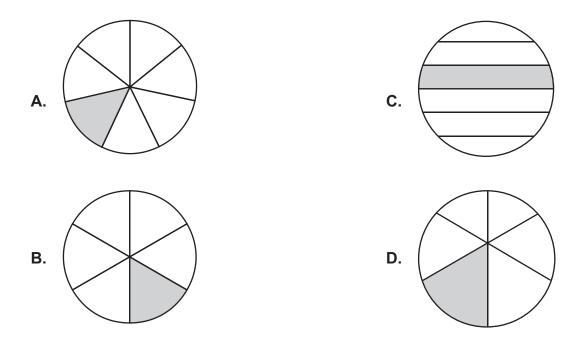


**39.** Use the model below to answer the question.

What fraction of the model is shaded?

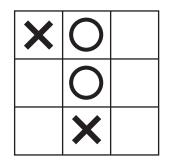


**40.** Claire made a circle graph. The graph shows that  $\frac{1}{6}$  of the students in her class can whistle. Which circle graph's shaded area shows the fraction of students in her class who can whistle?



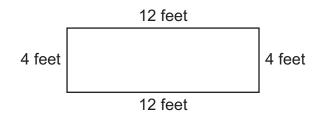
**41.** Isaac and Jana are playing tic-tac-toe on the game board shown below.

#### **Tic-Tac-Toe Game Board**



Each of the squares equals 1 square inch. What is the total area, in square inches, of the blank squares on the game board?

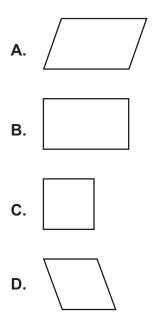
- **A.** 3 square inches
- **B.** 4 square inches
- **C.** 5 square inches
- D. 9 square inches
- **42.** Mr. Bennet drew the plan of his new garden as shown below.



How many feet of fencing will Mr. Bennet need to go around his garden?

- **A.** 16 feet
- **B.** 24 feet
- **C.** 32 feet
- **D.** 48 feet

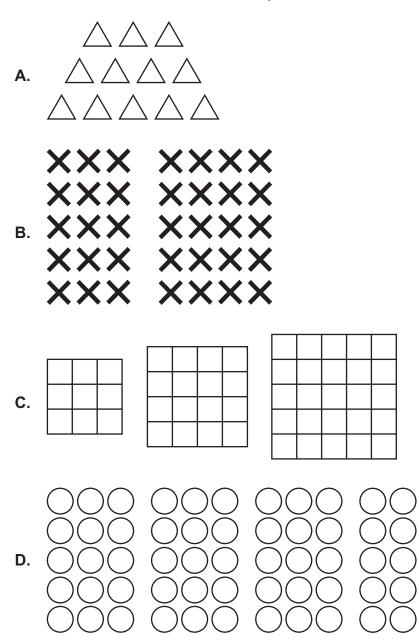
- **43.** John has 4 carrots. Sara has 2 more carrots than John. Darius has 3 times as many carrots as Sara. How many carrots does Darius have?
  - **A**. 9
  - **B.** 14
  - **C**. 18
  - **D**. 24
- **44.** Mandy drew a quadrilateral that is a rhombus but **not** a square. Which quadrilateral could be the one that Mandy drew?



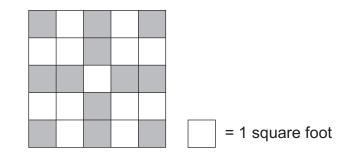
45. Use the expression below to answer the question.

 $(3 + 4) \times 5$ 

Which set of counters shows the expression above?

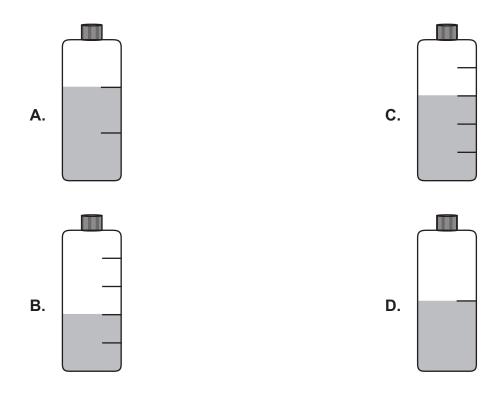


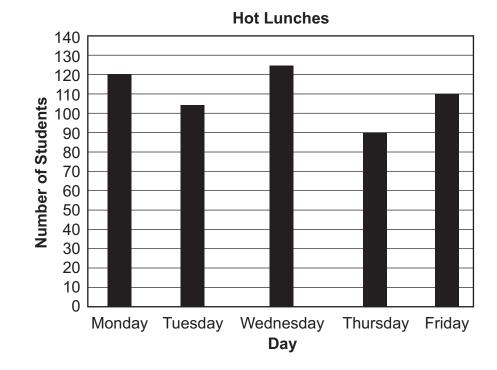
46. Kelly made a quilt using square patches. Her quilt is shown below.



What is the area of her quilt?

- A. 20 square feet
- B. 24 square feet
- C. 25 square feet
- D. 26 square feet
- **47.** Tim's shampoo bottle is about  $\frac{2}{3}$  full. Which picture shows the amount of shampoo in Tim's bottle?



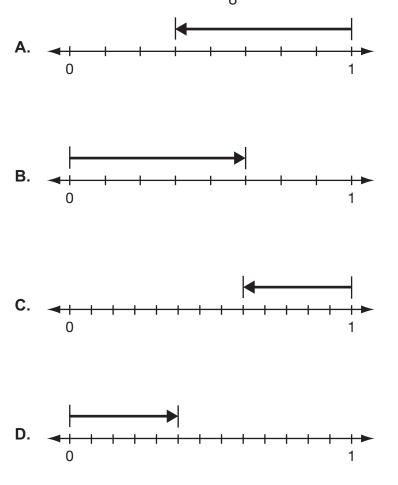


#### 48. Use the bar graph below to answer the question.

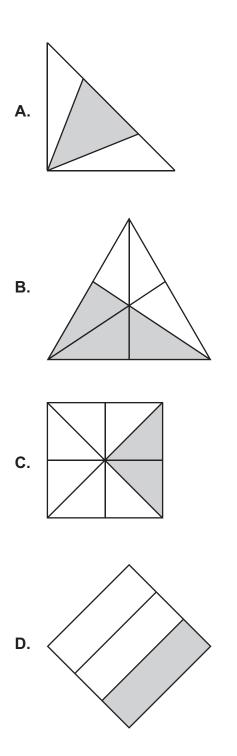
The bar graph shows the number of students who bought a hot lunch each day last week. How many more students bought a hot lunch on Monday than on Thursday?

- **A.** 15
- **B.** 30
- **C**. 35
- **D**. 50

**49.** Cassi drew an arrow above a number line. The arrow is  $\frac{5}{8}$  of a unit long. She drew the arrow so it is pointing at the fraction  $\frac{5}{8}$ . Which arrow could be the one Cassi drew?



**50.** Neil drew a shape. He divided it into equally-sized areas. Neil shaded  $\frac{1}{3}$  of the area of the shape. Which shape could be the one he drew?





# Math – Sessions 1, 2, and 3 GENERAL INSTRUCTIONS

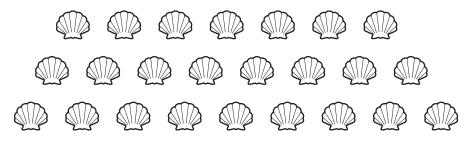
The Math test has three sessions, two with multiple-choice questions and one with a constructed-response question. You may **not** use a calculator for session 1, but you may use a calculator for sessions 2 and 3.

Write your answers for question 51 in the spaces provided below. The question has more than one part. Show all the work you do to find your answers. Even if you cannot answer all parts, answer as many as you can. You may still get points for answering part of the question. Be sure to write clearly. You may review your work in this session, but do not work on any other session.



You MAY use a calculator for this session.

51. Ben went to the beach yesterday. He found the seashells shown below.

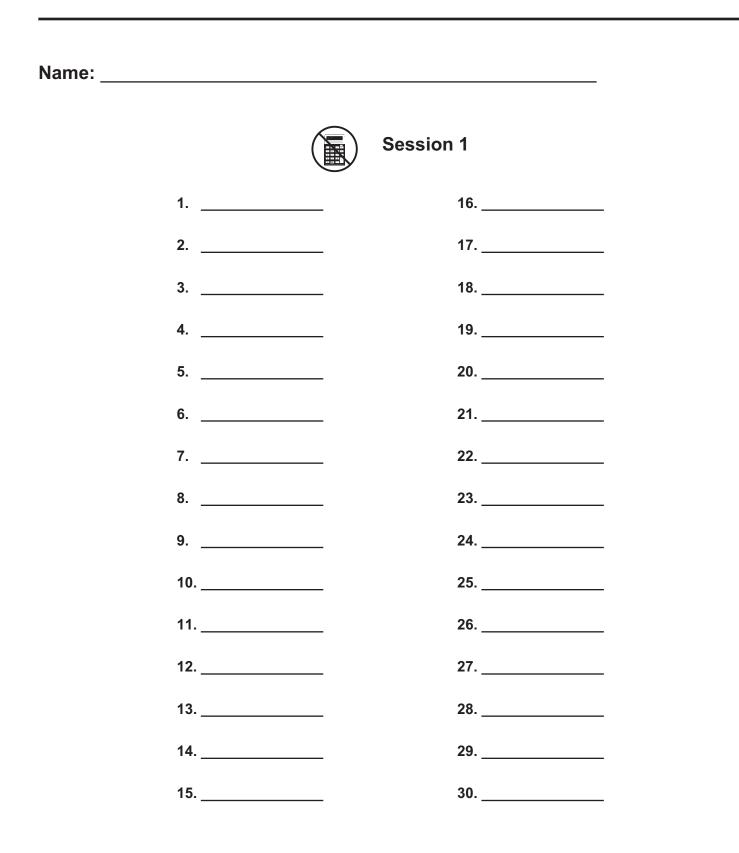


Ben gave them all away.

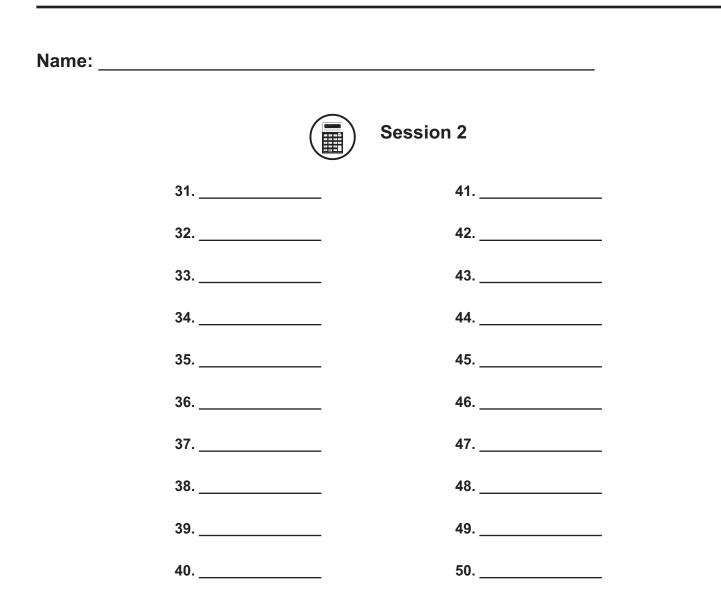
- A. Ben gave the seashells to 6 people. He gave the same number of seashells to each person. The first person he gave seashells to was Chad. Circle each of the seashells Ben gave to Chad. Explain how you found the number of seashells Ben gave to Chad.
- B. Ben goes to the beach again today. He finds the same number of seashells today as he did yesterday. This time, Ben gives all the seashells away to more than 6 people. Each person gets the same number of seashells. To how many people can Ben give the seashells? Show or explain how you found your answer.



# **Multiple-Choice Answer Sheet**

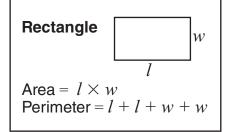


# **Multiple-Choice Answer Sheet**



# $i \mathbf{EAP}$ mathematics reference sheet-grade 3

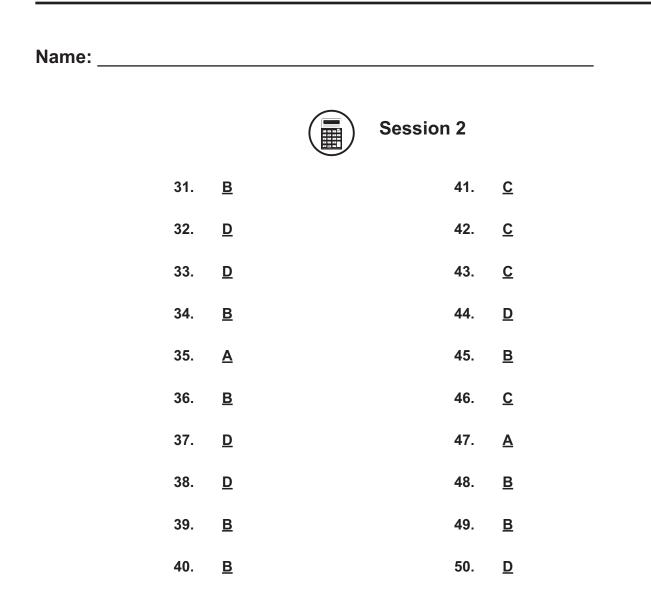
Use the information below to answer questions on the Math test.



# **Multiple-Choice Answer Key**



# **Multiple-Choice Answer Key**



# **Constructed-Response Scoring Rubrics**



Session 3

Scoring Rubric				
4	The student earns 4 points.	The student earns 4 points.		
3	The student earns 3 points.	*		
2	The student earns 2 points.			
1	The student earns 1 point OR demonstrandard being measured.	The student earns 1 point OR demonstrates minimal understanding of the standard being measured.		
0	The student's response is incorrect, measured, or blank.	The student's response is incorrect, irrelevant to the skill or standard being		
Sample Answer:				
Part A.				
		student should circle 4		
		hells in the picture.)		
	0 0 0 0 0 0 0 0			
Since there are 24 set 4 seashells.	eashells total and he gave them to 6 people	, I did $24 \div 6 = 4$ . So Chad received		
Part B. Ben found 24	4 seashells and $8 \times 3 = 24$ . Since 8 is great	er than 6, he can share with 8 people.		
Points Assigned:	<u> </u>			
Part A. 2 points				
1 point for circling 4	of the seashells in the picture			
AND				
1 point for giving a	complete and accurate work or explanation	n of why 4 seashells is correct		
Part B. 2 points				
1 point for 8, 12, or	24			
-				
AND	mplete and accurate work or explanation of			