



All About Math Level 4 Placement Test

If your student did not complete *All About Math* Level 3, use this checklist and the student activity pages following to verify placement in Level 4. Your student should get all items in a question correct in order to checkmark that question.

- ☐ 1. Your student can read and write fractions. Have your student write and read the fraction represented by the shaded model on the student activity page.

Model 1: (Answer: $\frac{7}{8}$) **Model 2:** (Answer: $\frac{7}{3}$ or $2\frac{1}{3}$) **Model 3:** (Answer: $\frac{2}{6}$)

- ☐ 2. Your student can identify and name fractions on a number line. Have your student count the number of parts on each number line and label the tick marks with a fraction. He should also label each whole number as a fraction.

Number Line 1: (Answer: $\frac{1}{3}, \frac{2}{3}, \frac{3}{3}$)

Number Line 2: (Answer: $\frac{1}{4}, \frac{2}{4}, \frac{3}{4}, \frac{4}{4}, \frac{5}{4}, \frac{6}{4}, \frac{7}{4}, \frac{8}{4}$)

- ☐ 3. Your student can determine if two fractions are equivalent. To test this, have your student shade the models and then circle yes or no.

$\frac{2}{3}$ and $\frac{4}{6}$ (Answer: yes) $\frac{1}{2}$ and $\frac{3}{8}$ (Answer: no)

- ☐ 4. Your student can compare two fractions with the same numerator and two fractions with the same denominator using the correct comparison symbol. To test this, read the situations in question 5 aloud. Your student will use the models and then the number lines to determine the correct comparison symbol to make the statement true, and explain how he found the answer.

$\frac{3}{8}$ and $\frac{3}{4}$ (Answers: $\frac{3}{8} < \frac{3}{4}$, The model for three-fourths has more of the rectangle shaded than the model for three-eighths.)

$\frac{5}{6}$ and $\frac{1}{6}$ (Answers: $\frac{5}{6} > \frac{1}{6}$, The number line shows that five-sixths is closer to one than one-sixth.)

- ☐ 5. Your student can represent equal groups using a multiplication expression, a repeated addition expression, a tape diagram, and an array. Have your student complete the table on the student activity page.

Multiplication Expression: (Answer: 4×5)

Repeated Addition Expression: (Answer: $8 + 8 + 8$)

Tape Diagram: (Answer: rectangle divided into four equal groups, and each section labeled with a five)

Array: (Answer: three rows with eight in each row)

- ☐ 6. Your student can represent a multiplication story problem with an array and an equation. To test this, read the story problems in question 7 aloud. Have your student create an array and then write an equation that represents the problem. He will represent the unknown in the equation with a blank. Then, have him use the array to answer the question.

Peppers (Answers: array: 6 rows with 5 in each row, $__ \times 5 = 30$, 6 boxes)

Lettuce (Answers: array: 7 rows with 7 in each row, $7 \times 7 = __$, 49 lettuce plants)

- ☐ 7. Your student can write two multiplication and division equations for an array. To test this, have your student write two multiplication equations and two division equations for the array shown on the student activity page.

Multiplication: (Answers: $7 \times 3 = 21$, $3 \times 7 = 21$)

Division: (Answers: $21 \div 7 = 3$, $21 \div 3 = 7$)

- ☐ 8. Your student can identify multiplication facts and their related division facts. Have your student fill in the blank number sentences based on the given number sentence on the student activity page.

$9 \times 7 = 63$ (Answers: $7 \times 9 = 63$, $63 \div 7 = 9$, and $63 \div 9 = 7$)

$48 \div 6 = 8$ (Answers: $48 \div 8 = 6$, $6 \times 8 = 48$, and $8 \times 6 = 48$)

- ☐ 9. Your student can multiply a one-digit number by a two-digit number. On the student activity page, have your student find the product for each multiplication equation using a tape diagram, manipulatives, or another strategy.

$3 \times 24 = __$ (Answer: 72) $6 \times 16 = __$ (Answer: 96)

- ☐ 10. Your student can divide within 100. Your student may use a model or a related multiplication fact to find the quotient in each equation on the student activity page.

$84 \div 4 = __$ (Answer: 21) $98 \div 7 = __$ (Answer: 14)

- ☐ 11. Your student can represent and solve two-step story problems by using the four operations. To test this, read each story problem in question 11 aloud. Have your student create equations based on the information given in the story problem, using a letter for an unknown amount. Then, have him use the equation to solve the story problem on the student activity page.

Nature preserve (Answers: $3 \times 21 = w$, $63 + 29 = t$, 92 woodpeckers)

Birdwatcher (Answers: $5 \times 8 = h$, $40 - 14 = t$, 26 hummingbirds)

- ☐ 12. Your student can read and write a nine-digit whole number in standard form and identify the place and value of each digit. To test this, have your student read the number and then explain the place and value of each digit. Then, he will read another number (help read it aloud as needed) and write it in standard form on the line.

Answers: 513,462,891 is read aloud as five hundred thirteen million, four hundred sixty-two thousand, eight hundred ninety-one

For place and value, if your student is unsure, point to the 6 and say, “The 6 is in the ten thousands place and has the value of sixty thousand.” Then, have your student provide the place and value of the rest of the digits.

5: hundred millions place, value is five hundred million

1: ten millions place, value of ten million

3: millions place, value of three million

4: hundred thousands place, value of four hundred thousand

6: ten thousands place, value of sixty thousand

2: thousands place, value of two thousand

8: hundreds place, value of eight hundred

9: tens place, value of ninety

1: ones place, value of one

Answer: 392,465,785

- ☐ 13. Your student can compare two multi-digit numbers within 1,000,000 by using comparison symbols ($>$, $<$, $=$) to show greater than, less than, or equal to. To test this, have your student compare each pair of numbers on the student activity page.

791,391 ____ **782,591** (*Answer: $>$*) **219,048** ____ **219,182** (*Answer: $<$*)

- ☐ 14. Your student can order a set of three multi-digit numbers within 1,000,000 from least to greatest or greatest to least. Have your student list the numbers in the correct order on the student activity page.

Least to Greatest: (*Answer: 311,745; 392,902; 421,310; 512,124*)

Greatest to Least: (*Answer: 791,458; 731,455; 722,031; 712,416*)

- ☐ 15. Your student can round numbers within 1,000,000 to the nearest thousands, ten thousands, and hundred thousands. Have your student complete the table on the student activity page. He can use a number line to solve these problems.

675,453: (Answer: Rounded to the nearest thousands is 675,000; rounded to the nearest ten thousands is 680,000; rounded to the nearest hundred thousands: 700,000)

392,794: (Answer: Rounded to the nearest thousands is 393,000; rounded to the nearest ten thousands is 390,000; rounded to the nearest hundred thousands is 400,000)

- ☐ 16. Your student can identify and name 2D and 3D shapes and features. To test this, have your student complete the table on the student activity page.

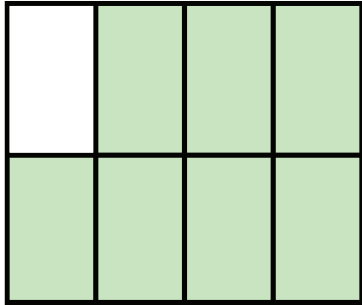
Answers: cone, angle, parallel, cylinder, quadrilateral

How did your student do?

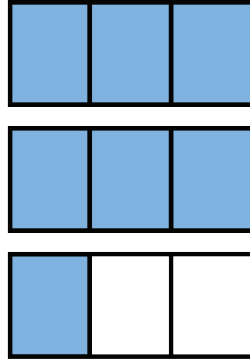
- If your child could easily complete 14 or more of the 16 skills, begin Level 4.
- If just one or two areas were difficult, you can remediate in those areas as you start Level 4.
- If 13 or fewer boxes were checked, start with Level 3 to build a strong foundation for math.
- Wondering if your student is ready for *All About Math* Level 5 instead? Use this [Level 5 Placement Test](#) to see if your student is beyond Level 4.

If you have any questions about the program or would like to learn how to adapt certain aspects of the program to accommodate your child's needs, feel free to call us at 715-477-1976 or email us at support@allaboutlearningpress.com. And if you need ideas on how to help your child build skills, just let us know—we are always happy to help!

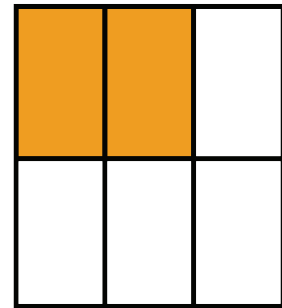
1. Write the fraction that represents the shaded part in each model. Then read the fraction.



fraction: _____

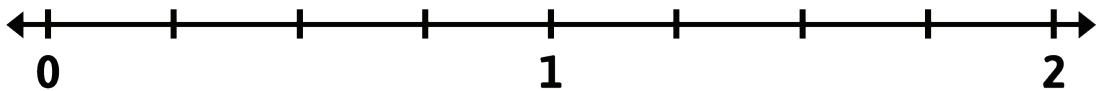
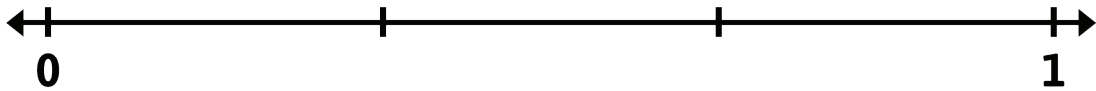


fraction: _____

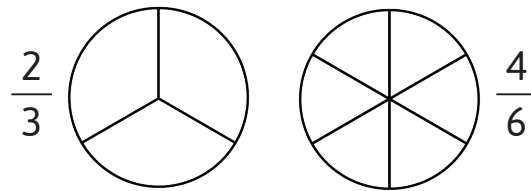


fraction: _____

2. Label the tick marks on each number line with a fraction.



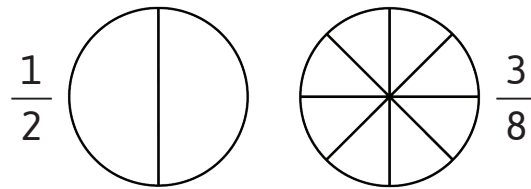
3. Shade each model to represent the fraction. Then, compare the models to determine if the fractions are equivalent.



Are the fractions equivalent?

YES

NO



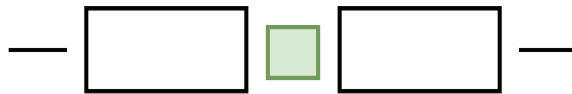
Are the fractions equivalent?

YES

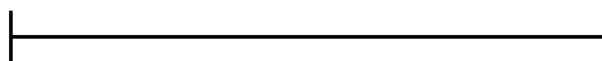
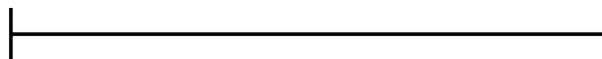
NO

4. Write the fractions from each situation. Use the models and number lines to represent the fractions. Then, write the comparison symbol to make the statements true.

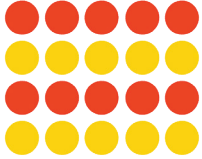
Jenny walked $\frac{3}{8}$ of a mile. Jacob walked $\frac{3}{4}$ of a mile. Who walked more?



A loaf of banana bread is cut into sixths. Zack ate $\frac{5}{6}$ of the loaf and Zoey ate $\frac{1}{6}$ of the loaf. Who ate less banana bread?



5. Represent equal groups using a multiplication expression, repeated addition expression, array, and tape diagram.

	3 groups of 8	4 groups of 5			
Multiplication Expression	3×8				
Repeated Addition Expression		$5 + 5 + 5 + 5$			
Tape Diagram	<table border="1"> <tr> <td>8</td> <td>8</td> <td>8</td> </tr> </table>	8	8	8	
8	8	8			
Array					

6. Represent each story problem with an array and equation. Then, use the array to answer the question.

There are 30 peppers in boxes, with 5 in each box. How many boxes of peppers are there?

Equation: _____

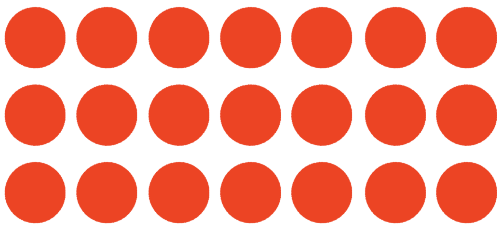
Answer: _____

A gardener plants seven rows of lettuce with seven plants in each row. When the planting is finished, how many lettuce plants are there in total?

Equation: _____

Answer: _____

7. Write two multiplication equations and two division equations to represent the array.



	×		=	
	×		=	
	÷		=	
	÷		=	

8. Fill in the related multiplication and division number sentences using the number sentence at the top.

$$9 \times 7 = 63$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$48 \div 6 = 8$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

9. Find the product using a tape diagram, manipulatives, or another strategy.

$$3 \times 24 = \underline{\quad}$$

$$6 \times 16 = \underline{\quad}$$

10. Find the quotient for the division equations using models or related multiplication facts. You can use the dry-erase board to draw your models.

$$84 \div 4 = \underline{\hspace{2cm}}$$

$$98 \div 7 = \underline{\hspace{2cm}}$$

11. Write equations to represent each two-step story problem and then solve the story problem.

One morning in the Nature Preserve, a volunteer recorded seeing 3 groups of woodpeckers, with 21 in each group. He also saw 7 robins. In the afternoon, he recorded 29 more woodpeckers. How many woodpeckers did he see in total?

Step One Equation: $\underline{\hspace{2cm}}$

Step Two Equation: $\underline{\hspace{2cm}}$

Answer: $\underline{\hspace{2cm}}$ woodpeckers

A birdwatcher saw hummingbirds and bees on all 5 of the feeders in his yard. There were 8 hummingbirds and 2 bees at each feeder. Later, 14 of the hummingbirds left the feeders. How many hummingbirds remained?

Step One Equation: $\underline{\hspace{2cm}}$

Step Two Equation: $\underline{\hspace{2cm}}$

Answer: $\underline{\hspace{2cm}}$ hummingbirds

12. Read the number below aloud. Then, tell the place and value of each digit.

513,462,891

Read the following number aloud. Then, write the number using digits.

three hundred ninety-two million, four hundred sixty-five thousand, seven hundred eighty-five:

_____ , _____ , _____

13. Use place value to compare the two numbers. Then, write a comparison symbol ($>$, $<$, or $=$) on the line to make the statement true.

791,391 _____ 782,591

219,048 _____ 219,182

14. List the following numbers in order from least to greatest.

421,310 392,902 311,745 512,124

List the following numbers in order from greatest to least.

712,416 731,455 722,031 791,458

15. Round each number to the nearest 1,000, nearest 10,000 and nearest 100,000 to complete the table.

	Nearest 1,000	Nearest 10,000	Nearest 100,000
675,453			
392,794			

16. Complete the chart by filling in the name of the 2D or 3D shape or attribute. A word list has been provided.

angle

cone

cylinder

parallel

quadrilateral

Shape	Name of Shape
