

Using the *Number Worlds* Placement Tests

The *Number Worlds* Placement Tests are used to determine in which *Number Worlds* level students should begin their instruction. There is a Placement Test per level in levels B-I (with level A being the level of instruction for students who do not pass Placement Test B and level J being the level of instruction for students who excel on Placement Test I). Every Placement Test assesses students' preexisting knowledge of math skills associated with that level. The items in the tests are arranged from easiest to most difficult. A student's score on a Placement Test will indicate whether or not they need to continue testing at a different level so that the appropriate level of instruction within the program can be determined.

If you have given the Number Knowledge Test to the student, it is recommended that you administer the Placement Test that corresponds to their Raw Test Score on the following Developmental Conversion Chart. If you have not given the student the Number Knowledge Test, locate the student's current grade in the Grade Level Equivalents column, and administer the corresponding level Placement Test. The Grade Level Equivalents cover a range of two grade levels (e.g. K-1). Begin testing with the lower Placement Test. For example, if your student is in the 3rd grade, begin testing with Placement Test E. This will help ensure that children achieve success on the beginning items of this test and provide a baseline measure of the child's math competence.

Developmental Conversion Chart

Raw Test Score	Developmental Age Score (Chronological Age Equivalents)	Grade Level Equivalents	Number Worlds Level
1–6	3–4 years	Preschool	Level A
7–8	4–5 years	PreK-K	Level B
9–14	5–6 years	K-1	Level C
15–19	6–7 years	1–2	Level D
20–25	7–8 years	2–3	Level E
26–28	8–9 years	3–4	Level F
29–30	9–10 years	4–5	Level G
N/A	10–11 years	5–6	Level H
N/A	11–12 years	6–7	Level I
N/A	12–13 years	7–8	Level J

Critical Range Testing

The **Number Worlds** Placement Tests are collectively and individually a critical range test. A critical range test consists of a series of items arranged from easiest to most difficult. A student completes a portion (or range) of items in the test which approximates their abilities. If a student makes several consecutive correct responses, it can be assumed with confidence that the student would also respond correctly to the preceding items, which are easier. Therefore, those items need not be administered. Similarly, when a student makes several incorrect responses, it can be assumed that the student would also not have the capability to correctly answer the subsequent items, which are more difficult.

This progression of difficulty also holds true across levels, so many students will need to be given more than one level's Placement Test in order to assess their current level of understanding. Using a critical range test for assessment is an ideal approach for placement within the program since it is not practical for the teacher to provide a full range of items to all examinees. Only items estimated to be within the student's current probable range of math understanding are administered. This approach saves time in the testing process and prevents the student from becoming overly frustrated.

The items used in the Placement Tests are representative of the content covered within that level. Effort has been taken to use language that should be familiar to most students instead of **Number Worlds** specific terminology. The Developmental Conversion Chart can be used as a guide for determining the appropriate Placement Test with which to begin testing, but generally speaking, you want to underestimate a student's ability because it is preferable that the student has the opportunity to succeed in the beginning of the test-taking process. If your previous experience with a student suggests to you that they will perform below their current grade level, you should begin testing at the level you deem appropriate based on the information contained in the Developmental Conversion Chart.

Placement Tests may also be given at the end of the year (or once the **Number Worlds** curriculum for a given level is completed) and compared to the students' initial scores in order to measure the students' overall progress in their understanding of math concepts.

Placement Tests in Levels A–C

Number Worlds levels A–C are targeted for use by students in grades Pre-Kindergarten through Grade 1. Placement Tests can be used to identify where students should begin within the **Number Worlds** curriculum.

Placement Tests for levels B and C are designed to be administered individually to each student by a teacher, classroom aid, or parent helper. The tests at these levels consist of teacher’s instructions on the left-hand page and reproducible test masters on the right-hand page.

LEVEL B **Placement Test Instructions**
Pre-Kindergarten-Kindergarten

Use the following questions to assess a student's prior knowledge of **Number Worlds** Level B content. Repeat the questions if necessary but do not reveal them. If students have difficulty circling answers, allow them to point to the answer they think is correct.

If a student correctly responds to 7 or 8 of the following 8 items, continue to assess the student using Placement Test C. If a student correctly responds to 4–6 items, the student should begin instruction in **Number Worlds** Level B. If a student correctly responds to only 0–3 items, the student should begin instruction in Level A.

1. Look at the numbers at the top of the page. Which answer shows the numbers in the right order? Draw a circle around the numbers that are in the right order.
The center group showing 2 3 4 5 6 is correctly ordered.
2. Look at the apples in the box. How many are there in all? Draw a circle around the number that shows how many apples there are.
3. Look at the sets of books. Which set has the most? Draw a circle around the set of books that has the most. The last set of 7 books has the most.
4. Look at the row of shapes. Which shape is a square? Draw a circle around the shape that is a square. The first shape is a square.

38 Level B Placement Test

Name _____ Date _____

1. 63542 23456 45326
2.
8 5 9
- 3.
- 4.

Placement Test Level B 39

Placement Test, Level B

Placement Tests B and C contain 8 questions apiece which can be used to assess a student’s prior knowledge of the corresponding **Number Worlds** content for those levels. You may repeat questions to the students if necessary, but do not reword them.

- If a student correctly responds to 7 or 8 of the items, continue to assess the student using the next Placement Test up.
- If a student correctly responds to 4–6 items, the student should begin instruction within that **Number Worlds** level.
- If a student correctly responds to only 0–3 items in Placement Test C, continue to assess the student using Placement Test B.
- If a student correctly responds to only 0–3 items in Placement Test B, the student should begin instruction within **Number Worlds** level A.

To gain an even more thorough understanding of a student’s conceptual knowledge of number (number sense) at these levels, use the Number Knowledge Test included in this book (pp. 19–32). The Number Knowledge Test was designed to assess central conceptual knowledge typically acquired by children around the ages of 4, 6, 8, and 10 years.

Placement Tests in Levels D–J

Number Worlds levels D–J are targeted for use by students in Grades 2–8. Placement of students at these levels within the **Number Worlds** curriculum should begin by evaluating their success on the reproducible Placement Tests on pages 46–63 of this book.

At these levels, students should attempt to take the test independently. If a student is struggling with reading comprehension of the items, the Placement Tests may be administered by a teacher, classroom aide, or parent helper. In order to best evaluate the effectiveness of the **Number Worlds** program and prepare the student for future testing, students should complete the test on their own.

LEVEL **F** Name _____ Date _____

Placement Test

Circle the letter of the correct answer.

- Look at the number. Increase the value of the hundreds digit by 2. What would the new number be?
24,516
A 24,519
B 24,546
C 27,216
D 24,816
- $936 - 478 =$
A 458
B 542
C 452
D 448
- Which problem will have an answer less than 500?
A $1162 - 584$
B $287 + 294$
C $1427 - 986$
D $143 + 406$
- Which problem is a true statement?
A $\frac{2}{3} > \frac{5}{6}$
B $\frac{3}{10} < \frac{7}{20}$
C $\frac{1}{3} = \frac{4}{20}$
D $\frac{4}{9} > \frac{1}{2}$

52 Level F Placement Test

LEVEL **F** Name _____ Date _____

Circle the letter of the correct answer.

- A theater has 12 sections. Each section has 8 rows and each row has 10 seats. How many seats are there in all?
A 92 seats
B 240 seats
C 960 seats
D 860 seats
- $63 \div 9 =$
A 6
B 8
C 4
D 7
- Which expression would you use to solve this problem?
The temperature at four o'clock was 85°. By nine o'clock that night, it was 63°. How much did the temperature drop?
A $85 + 63$
B $85 - 63$
C $85 + 4 - 63$
D $9 - 4$

Placement Test, Level F 53

Placement Test, Level F

Placement Tests D–I contain 10 questions apiece which can be used to assess a student’s prior knowledge of the corresponding **Number Worlds** content for those levels. Ideally, a student should get most of the items correct in the level in which they are placed.

- If a student correctly responds to 8–10 of the items, continue to assess the student using the next Placement Test up.
- If a student correctly responds to 8–10 of the items in Placement Test I, the student should begin instruction within **Number Worlds** level J.
- If a student correctly responds to 4–7 items, the student should begin instruction within that **Number Worlds** level.
- If a student correctly responds to only 0–3 items, continue to assess the student using the next Placement Test down.

Placement Test Instructions

PreKindergarten-Kindergarten



Use the following questions to assess a student's prior knowledge of **Number Worlds** Level B content. Repeat the questions if necessary but do not reword them. If students have difficulty circling answers, allow them to point to the answer they think is correct.

If a student correctly responds to 7 or 8 of the following 8 items, continue to assess the student using Placement Test C. If a student correctly responds to 4-6 items, the student should begin instruction in **Number Worlds**, Level B. If a student correctly responds to only 0-3 items, the student should begin instruction in Level A.

1. Look at the numbers at the top of the page. Which answer shows the numbers in the right order? Draw a circle around the numbers that are in the right order.

The center group showing 2 3 4 5 6 is correctly ordered.

-
2. Look at the apples in the box. How many are there in all? Draw a circle around the number that shows how many apples there are. 8

-
3. Look at the sets of books. Which set has the most? Draw a circle around the set of books that has the most. The last set of 7 books has the most.

-
4. Look at the row of shapes. Which shape is a square? Draw a circle around the shape that is a square. The first shape is a square.

Name _____ Date _____

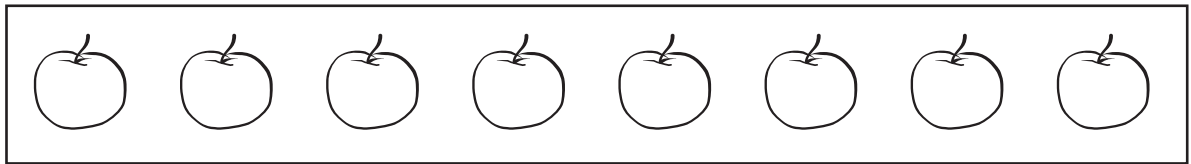
1.

63542

23456

45326

2.

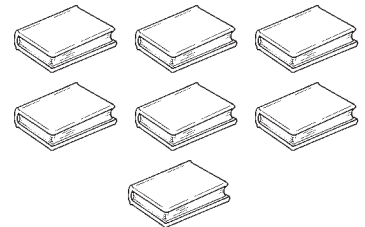
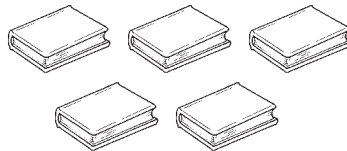
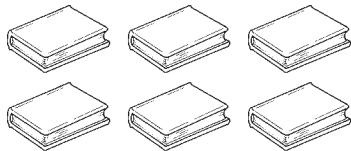


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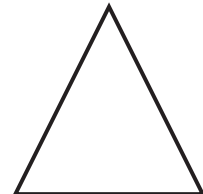
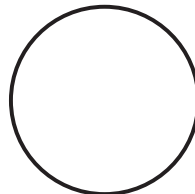
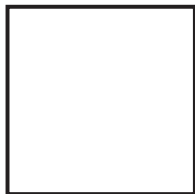
5

9

3.



4.



Placement Test Instructions

PreKindergarten-Kindergarten



Use the following questions to assess a student's prior knowledge of **Number Worlds** Level B content. Repeat the questions if necessary but do not reword them. If students have difficulty circling answers, allow them to point to the answer they think is correct.

5. Look at the numbers at the top of the page. Which number is the largest? Draw a circle around the number that is the largest. 9
-
6. Look at the group of dots on the card. If you added one more dot, how many would you have? Circle the answer that shows how many dots you would have if you added one more to the dots on the card? 6
-
7. Look at the crayons. Raj had this many crayons. He gave one to his sister. Which answer shows how many crayons Raj had left? 9
-
8. What number will the star be on if you move forward five spaces? 9

Name _____ Date _____

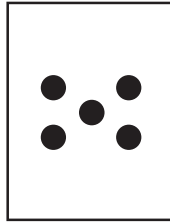
5.

3

9

7

6.

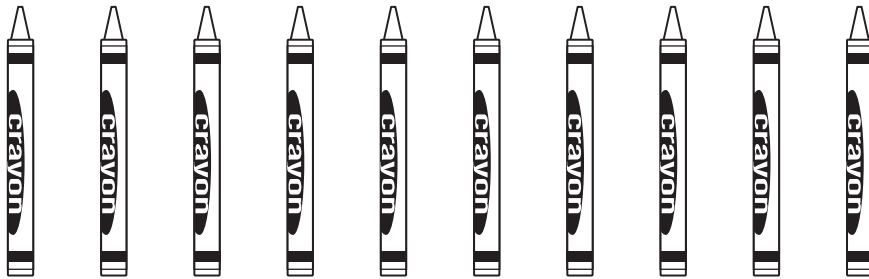


4

8

6

7.

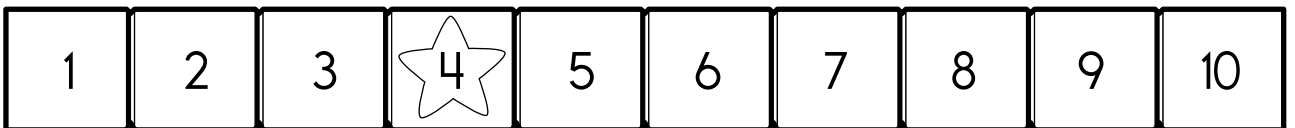


4

9

7

8.



5

7

9

Placement Test Instructions

Kindergarten-Grade 1



Use the following questions to assess a student's prior knowledge of **Number Worlds** Level C content. Repeat the questions if necessary but do not reword them.

If a student correctly responds to 7 or 8 of the following 8 items, continue to assess the student using Placement Test D. If a student correctly responds to 4-6 items, the student should begin instruction in **Number Worlds**, Level C. If a student correctly responds to only 0-3 items, continue to assess the student using Placement Test B.

1. Look at the numbers at the top of the page. Which group of numbers shows the correct counting order? Draw a circle around the group of numbers that shows the correct counting order.

The last group showing 16, 17, 18, 19 is correctly ordered.

-
2. Look at the numbers in the box. What number would come next if you were counting? Draw a circle around the number that would come next if you were counting. 31

-
3. Look at the dogs. Which group has the least number of dogs? Draw a circle around the group that has the least number of dogs. The first group of 5 dogs has the least.

-
4. Move down to the subtraction problem in the box. What is the answer to the problem? Draw a circle around the answer to the problem. 7

Name _____ Date _____

1.

15,13,14,17 14,12,16,15 16,17,18,19

2.

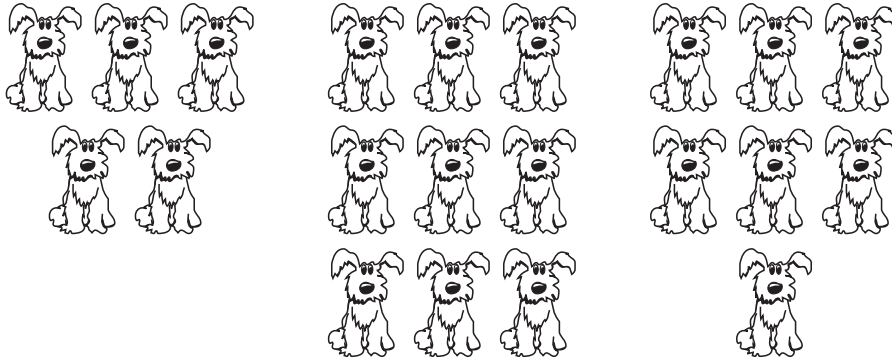
28, 29, 30, —

31

27

33

3.



4.

$16 - 9 = \underline{\quad}$

7

8

9

Placement Test Instructions

Kindergarten-Grade 1



Use the following questions to assess a student's prior knowledge of **Number Worlds** Level C content. Repeat the questions if necessary but do not reword them.

5. Listen carefully and look at the next row of numbers. Ann had five stickers. She put four stickers in a book and one on a letter. How many did she have left? Draw a circle around the answer that shows how many stickers she had left. **0**

6 Look at the problem in the box. What is the answer to the problem? Draw a circle around the number that is the answer to the problem. **6**

7 Look at the problem in the next box. What is the answer to the problem? Draw a circle around the number that is the answer to the problem. **19**

8 How many tens are in the number 52? **5**

Name _____ Date _____

5.

5 1 0

6.

$$2 + 1 + 3 = \underline{\quad}$$

4 6 5

7.

$$13 + 6 = \underline{\quad}$$

19 14 18

8.

2 5 7

Placement Test

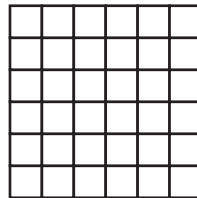
Circle the letter of the correct answer.

1. Which answer is the same as $8 + 6 + 9$?

- A 8 tens and 6 ones
- B 6 tens and 9 ones
- C 2 tens and 3 ones
- D 3 tens and 8 ones

2. Look at the squares. How many groups of tens and ones are there?

- A 6 tens and 6 ones
- B 2 tens and 4 ones
- C 3 tens and 6 ones
- D 5 tens and 4 ones



3. Circle the number with the higher tens value.

- A 534
- B 187
- C 274
- D 916

Circle the letter of the correct answer.

8. Which equation matches this problem?

There were 9 birds in a tree. All of them flew away.
How many birds were left in the tree?

A $9 + 1 = 10$

B $9 - 9 = 0$

C $4 + 5 = 9$

D $9 + 0 = 9$

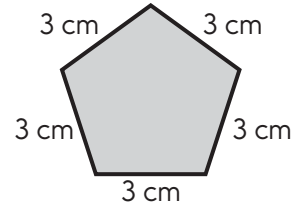
9. What is the perimeter of this shape?

A 15 cm

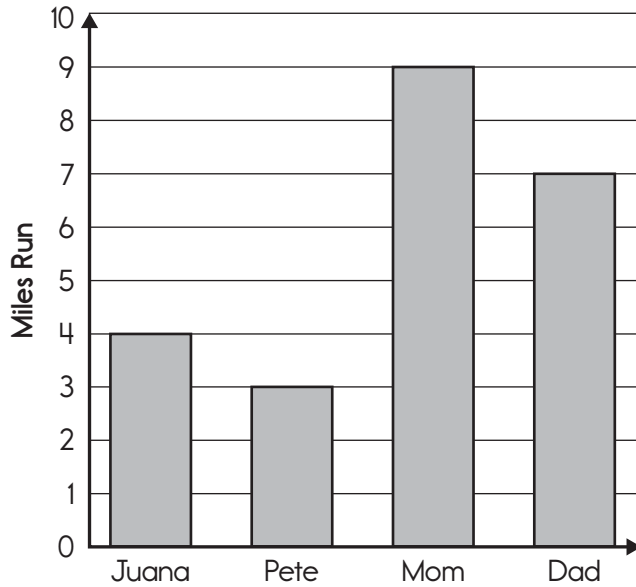
B 5 cm

C 8 cm

D 12 cm



10. Look at the graph. How many miles did Mom run?



A 7

B 9

C 6

D 10

Name _____ Date _____

Placement Test

Circle the letter of the correct answer.

1. Which answer is the same as 6 tens and 27 ones?

- A 33
- B 87
- C 62
- D 82

2. How many dimes are equal to 40 pennies?

- A 10
- B 400
- C 14
- D 4

3. Which answer is correct?

- A $5 = 13$
- B $4 < 9$
- C $8 < 3$
- D $2 > 12$

4. $9 + 7 =$ _____

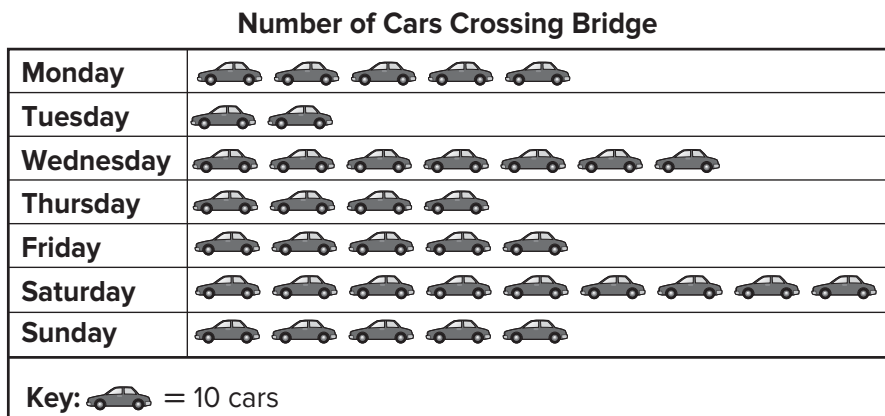
- A $9 - 7$
- B $9 + (7 + 9)$
- C $7 + (6 + 3)$
- D $7 - (9 + 3)$

Circle the letter of the correct answer.

5. In which problem do you have to regroup?

- A** $61 - 19$
- B** $54 - 42$
- C** $38 - 25$
- D** $76 - 30$

6. Look at the pictograph. How many cars crossed the bridge on Wednesday?



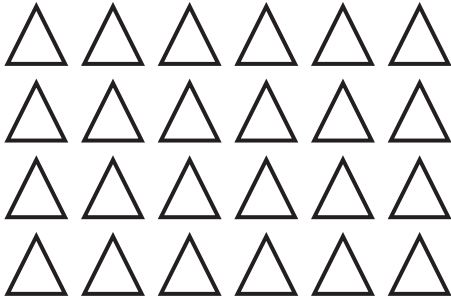
- A** 17
 - B** 24
 - C** 53
 - D** 70
- 7.** What is the value of the digit 3 in the number 539?

- A** 13
- B** 30
- C** 39
- D** 300

Name _____ Date _____

Circle the letter of the correct answer.**8.** What number is missing in this function table?

IN	OUT
3	8
5	10
7	
15	20
23	28

A 33**B** 14**C** 29**D** 12**9.** Which multiplication fact is represented by this array?**A** $5 \times 4 = 20$ **B** $6 \times 4 = 24$ **C** $8 \times 3 = 24$ **D** $6 \times 5 = 30$ **10.** Which equation is correct?**A** $5 + 9 = 14 - 5$ **B** $5 + 5 = 9 + 9$ **C** $5 + 9 = 9 + 5$ **D** $9 + 5 = 14 - 9$

Placement Test

Circle the letter of the correct answer.

- 1.** Look at the number. Increase the value of the hundreds digit by 3. What would the new number be?

24,516

- A** 24,519
B 24,546
C 27,216
D 24,816
- 2.** $936 - 478 =$
- A** 458
B 542
C 452
D 448
- 3.** Which problem will have an answer less than 500?
- A** $1162 - 584$
B $267 + 294$
C $1,427 - 986$
D $143 + 406$
- 4.** Which problem is a true statement?
- A** $\frac{3}{6} > \frac{5}{6}$
B $\frac{3}{10} < \frac{7}{20}$
C $\frac{1}{5} = \frac{3}{20}$
D $\frac{4}{9} > \frac{1}{2}$

Name _____ Date _____

Circle the letter of the correct answer.

- 5.** A theater has 12 sections. Each section has 8 rows and each row has 10 seats. How many seats are there in all?

A 92 seats
B 240 seats
C 960 seats
D 860 seats

- 6.** $63 \div 9 =$

A 6
B 8
C 4
D 7

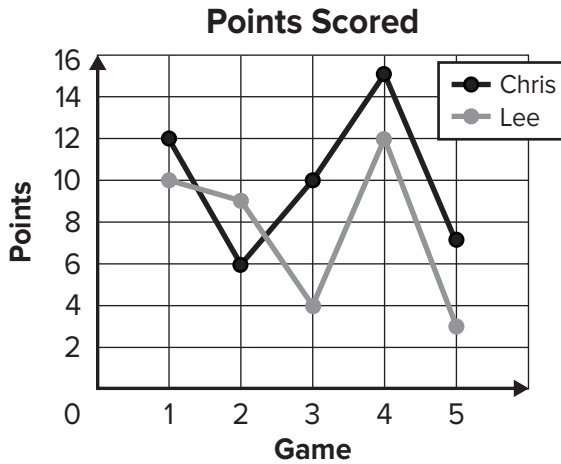
- 7.** Which expression would you use to solve this problem?

The temperature at four o'clock was 85° . By nine o'clock that night, it was 63° . How much did the temperature drop?

A $85 + 63$
B $85 - 63$
C $85 + 4 - 63$
D $9 - 4$

Circle the letter of the correct answer.

8. Look at the graph. In which game did Lee score nine points?



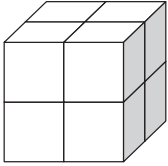
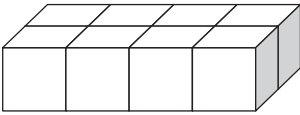
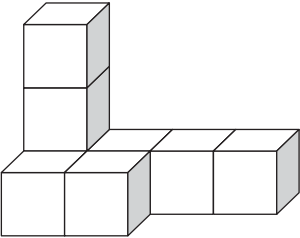
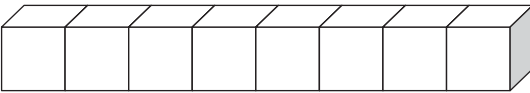
- A 1
B 2
C 3
D 4
9. A driver delivered 214 soccer balls to a store. The next day, the driver brought 27 footballs and 39 basketballs to the same store. If 25 balls can fit on a shelf, how many shelves will be needed for all the balls?
- A 13
B 15
C 12
D 19
10. What is the area of a room that is 8 feet wide and 12 feet long?
- A 96 square feet
B 20 square feet
C 128 square feet
D 82 square feet

Name _____ Date _____

Placement Test

Circle the letter of the correct answer.

1. Which figure has the smallest surface area?

A**B****C****D**

2. $\frac{3}{4} \times \frac{2}{3} =$

A $\frac{3}{4}$ **B** $\frac{2}{3}$ **C** $\frac{1}{4}$ **D** $\frac{1}{2}$

Circle the letter of the correct answer.

3. $\frac{1}{4} + \frac{1}{3} + \frac{1}{12} =$

A $\frac{1}{4}$

B $\frac{5}{12}$

C $\frac{2}{3}$

D $\frac{2}{7}$

4. What is the median of the following set of numbers?

11 2 5 6 7 14 4

A 3

B 5

C 6

D 7

5. A board is 8 feet long. There are 12 inches in a foot. A worker cut the board into 6 pieces. How long was each piece of wood?

A 16 inches

B 14 inches

C 4 inches

D 48 inches

6. $6 \times (2 + 5) =$

A 42

B 13

C 17

D 67

Name _____ Date _____

Circle the letter of the correct answer.

7. Which answer is equivalent to $\frac{1}{4}$?

A $\frac{1}{8}$

B $\frac{4}{14}$

C $\frac{14}{28}$

D $\frac{8}{32}$

8. Which answer completes the equation?

$$33 - 8 = \underline{\quad} + 9$$

A 25

B 17

C 16

D 34

9. There are three times more cows in a field than sheep. If there are 40 animals all together, how many of them are sheep?

A 12

B 10

C 4

D 20

10. Which answer is equal to 2^3 ?

A 2×3

B 3^2

C $2 \times 2 \times 2$

D $1 \times 2 \times 3$

Placement Test

Circle the letter of the correct answer.

1. In which answer are the numbers ordered from least to greatest?

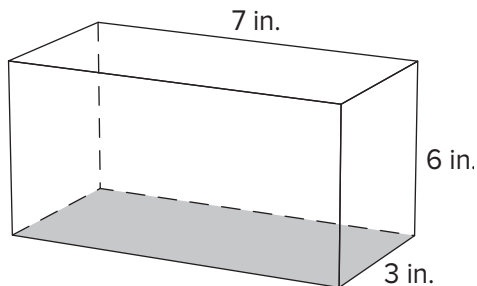
A $-2, -3, -5, 9, 13$
B $-12, -4, 2, 7, 14$
C $2, -2, 3, -3, 5, -5$
D $18, 12, 0, -6, -1$

2. The table below shows the pets owned by students in a class. What is the ratio of fish to cats?

PET	NUMBER
Fish	4
Birds	2
Dogs	9
Cats	7

A 11
B 3
C $\frac{4}{2}$
D $\frac{4}{7}$

3. What is the volume of this figure?



A 126 in^3
B 16 in^3
C 367 in^3
D 63 in^3

Name _____ Date _____

Circle the letter of the correct answer.

4. $358 \overline{)14962}$

- A 44
- B 42 R 9
- C 41 R 284
- D 14 R 962

5. If you divided a circle into 3 equal angles, what would each angle measure?

- A 300 degrees
- B 120 degrees
- C 90 degrees
- D 63 degrees

6. What is 250% of 40?

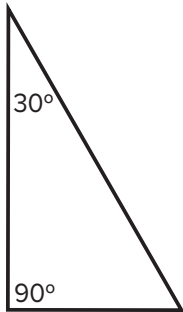
- A 100
- B 254
- C 425
- D 10

7. $\frac{2}{5} \div \frac{1}{8} =$

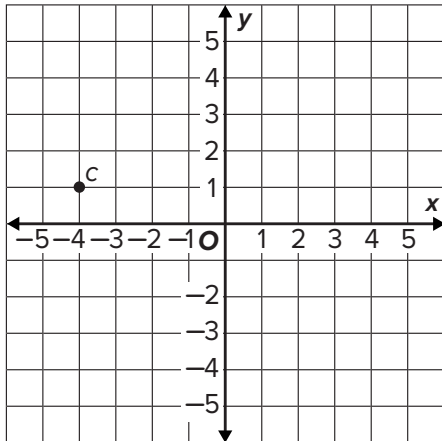
- A $2\frac{5}{8}$
- B $\frac{3}{13}$
- C $\frac{5}{16}$
- D $3\frac{1}{5}$

Circle the letter of the correct answer.

- 8.** What is the measure of the missing interior angle in this triangle?



- A** 39 degrees **B** 60 degrees
C 40 degrees **D** 120 degrees
- 9.** What are the coordinates of point c?



- A** (2, -2) **B** (-4, 1)
C (1, -3) **D** (-4, -4)
- 10.** A box contains three balls of different colors. The colors are red, white, and blue. What is the probability of choosing the same color ball two times in a row?
- A** $\frac{2}{3}$ **B** $\frac{1}{9}$
C $\frac{1}{3}$ **D** $\frac{2}{27}$

Name _____ Date _____

Placement Test

Circle the letter of the correct answer.

1. What is the least common multiple of these numbers?

3, 4, and 9

- A 12
- B 36
- C 18
- D 49

2. Which numbers are correctly ordered from least to greatest?

A $-\frac{5}{3}, -1, 0.05, 2\frac{1}{3}, \frac{9}{2}$

B $0, 1, \frac{2}{3}, -\frac{4}{2}, -0.7$

C $-0.5, -\frac{2}{3}, 1, \frac{5}{4}, 0.07$

D $\frac{1}{4}, -0.4, 2, -\frac{3}{5}, 4$

3. $63 - (-19) =$ _____

- A 44
- B 56
- C 82
- D 73

Circle the letter of the correct answer.

4. $11\frac{1}{3} - 7\frac{3}{5} = \underline{\hspace{2cm}}$

A $3\frac{11}{15}$

B $4\frac{1}{4}$

C 18

D $4\frac{1}{5}$

5. The regular price of a soccer ball is \$28. It is on sale for 25% off. What is the sale price of the soccer ball?

A \$21

B \$3

C \$7

D \$25

6. $6.75 \div 0.25 = \underline{\hspace{2cm}}$

A 6.5

B 4.5

C 13

D 27

7. Which of these proportions is not equal to the others?

A 1:3

B 4:5

C 15:45

D 6:18

