

Learn About

Building Number Sense: Place Value and Writing Numbers

Each digit in a number has a **place value**. The value of a digit depends on its place in a number. The chart below shows the values of the digits in the number 143,674,892.45.

hundred millions (100,000,000)	ten millions (10,000,000)	millions (1,000,000)	hundred thousands (100,000)	ten thousands (10,000)	thousands (1,000)	hundreds (100)	tens (10)	ones (1)	tenths (0.1)	hundredths (0.01)
1	4	3	6	7	4	8	9	2	.4	5

Numbers can be written in different ways.

- Standard form: 143,674,892.45
- Word form: one hundred and forty-three million, six hundred and seventy-four thousand, eight hundred and ninety-two, and forty-five hundredths
- Expanded form: $100,000,000 + 40,000,000 + 3,000,000 + 600,000 + 70,000 + 4,000 + 800 + 90 + 2 + 0.4 + 0.05$

The list below shows different ways to write the number 28,000.

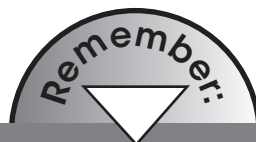
- $28,000 = 28 \text{ thousands} = 280 \text{ hundreds} = 2800 \text{ tens}$
- $2(10^4) + 8(10^3)$ or $2.8(10^4)$

The total amount of money donated to the local children's hospital was \$134,526,789.32. What is the value of the 6 in this number?

The 6 is in the thousands place.

Six thousands is 6000.

The value of the 6 is **6000**.



Each digit in a number has a **place value**. The value of a digit depends on its place in a number. Numbers can be written in standard form, in word form or in expanded form.

*Look at the answer choices for each question.
Read why each answer choice is correct or
not correct.*

1. The total attendance for last season was 6,381,558. What is the value of the 3 in this number?

● 300,000

This is the correct answer. The 3 is in the hundred thousands place, which means it has a value of 300,000.

Ⓐ 30,000

This is not the correct answer. The 3 is in the hundred thousands place, which means it has a value of 300,000, not 30,000.

Ⓑ 3000

This is not the correct answer. The 3 is in the hundred thousands place, which means it has a value of 300,000, not 3000.

Ⓒ 300

This is not the correct answer. The 3 is in the hundred thousands place, which means it has a value of 300,000, not 300.

2. Approximately $\frac{1}{5}$ of the Pelican fans are between the ages of 40 and 55, and $\frac{2}{3}$ of the Pelican fans are between the ages of 18 and 24. What is the sum of these two fractions?

Ⓐ $\frac{2}{15}$

This is not the correct answer. The least common denominator is 15. Therefore, $\frac{1}{5}$ changes to $\frac{3}{15}$ and $\frac{2}{3}$ changes to $\frac{10}{15}$. $\frac{3}{15} + \frac{10}{15} = \frac{13}{15}$, not $\frac{2}{15}$.

Ⓑ $\frac{3}{8}$

This is not the correct answer. This answer is the result of adding the numerators and adding the denominators ($\frac{1+2}{5+3} = \frac{3}{8}$). The fractions must be changed to equivalent fractions with like denominators before adding.

Ⓒ $\frac{4}{7}$

This is not the correct answer. The least common denominator is 15. Therefore, $\frac{1}{5}$ changes to $\frac{3}{15}$ and $\frac{2}{3}$ changes to $\frac{10}{15}$. $\frac{3}{15} + \frac{10}{15} = \frac{13}{15}$, not $\frac{4}{7}$.

● $\frac{13}{15}$

This is the correct answer. The least common denominator is 15. Therefore, $\frac{1}{5}$ changes to $\frac{3}{15}$ and $\frac{2}{3}$ changes to $\frac{10}{15}$. $\frac{3}{15} + \frac{10}{15} = \frac{13}{15}$.

Lesson

2

Read the passage.
Then do Numbers 1–5.

The Dwarf Planet

In 2006, scientists reclassified Pluto as a dwarf planet. Pluto is smaller than the other planets. It is also the furthest from the sun. It takes Earth one year to orbit the sun. Pluto takes 248 Earth years to orbit the sun. The number below shows Pluto's distance from the sun in kilometres.



billions (1,000,000,000)	hundred millions (100,000,000)	ten millions (10,000,000)	millions (1,000,000)	hundred thousands (100,000)	ten thousands (10,000)	thousands (1000)	hundreds (100)	tens (10)	ones (1)
5	9	0	6	3	7	0	0	0	0

1. What is the value of the 7 in the number?

- (A) 7 hundred thousand
- (B) 7 ten thousands
- (C) 7 thousands
- (D) 7 thousandths

2. Which digit is in the millions place?

- (A) 9
- (B) 6
- (C) 5
- (D) 0

3. By mistake, Lyle and his brother bought $\frac{1}{3}$ the amount of tomatoes on the list. What fraction of a kilogram of tomatoes did they buy?

- Ⓐ $\frac{3}{4}$ kilogram
- Ⓑ $\frac{2}{3}$ kilogram
- Ⓒ $\frac{1}{2}$ kilogram
- Ⓓ $\frac{3}{8}$ kilogram

4. If lemons are \$1.76 per kilogram, how much did the boys pay for the lemons?

- Ⓐ \$0.64
- Ⓑ \$0.70
- Ⓒ \$0.76
- Ⓓ \$0.80

5. What is the total amount of grapes and lemons that Lyle's mother requested? Show your work in the space below. Remember to check your solution.

Write your solution.

Explain how you found your solution.

Self-Assessment

Lessons 1-5

1

Answer these questions after you have completed Lessons 1-5.

FOCUS on Building Number Sense, Book F

Name _____ Date _____

1. Rate your work in Lessons 1-5. Circle your answer.

successful

somewhat successful

needs improvement

2. Did any of the questions give you trouble? _____
If so, what kind of trouble did you have?

3. Complete this sentence. *I could have done even better in Lessons 1-5 if...*

4. What is your goal for Lessons 6-10?

Cut along the dotted line.