

# Numeration: Billions

Place-value chart:

Billions period			Millions period			Thousands period			Ones period		
hundred billions	ten billions	billions	hundred millions	ten millions	millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
		6 ,	3	9	2 ,	5	8	0 ,	1	0	1

**Expanded form:**  $6,000,000,000 + 300,000,000 + 90,000,000 + 2,000,000 + 500,000 + 80,000 + 100 + 1$

**Standard form:** 6,392,580,101

**Word form:** six billion, three hundred ninety-two million, five hundred eighty thousand, one hundred one

Write the word name for each number and tell the value of the underlined digit.

1. 3,552,308,725

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2. 843,208,732,833

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3. Write  $2,000,000,000 + 70,000,000 + 100,000 + 70,000 + 3,000 + 800 + 10$  in standard form.

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4. **Number Sense** What number is 100,000,000 more than 5,438,724,022?

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1. What is the number eight million, three hundred thousand, fifty-three in standard form?
- A 8,030,530  
B 8,300,053  
C 8,350,035  
D 8,300,035
2. What is 30,270,904 in expanded form?
- A  $3,000,000 + 200,000 + 70,000 + 900 + 4$   
B  $30,000,000 + 200,000 + 7,000 + 900 + 4$   
C  $30,000,000 + 20,000 + 70,000 + 900 + 4$   
D  $30,000,000 + 200,000 + 70,000 + 900 + 4$
3. The population of the United States was estimated to be 298,444,215 in July 2006. What is this number in word form?
- F two billion, ninety-eight million, forty-four hundred thousand, two hundred fifteen  
G two hundred ninety-eight million, four hundred thousand forty, two hundred fifteen  
H two hundred ninety-eight million, four hundred forty-four thousand, two hundred fifteen  
J twenty-nine billion, eight million, four hundred forty-four thousand, two hundred fifteen
4. What is the value of the underlined digit in 12,864,125?
- F 600  
G 6,000  
H 60,000  
J 600,000
5. **Writing to Explain** The distance around the Earth at the equator is approximately 40,076 kilometers. Write this number in word form and expanded form.

Add or subtract.

1.  $8,579 + 4,604$

A 12,173

B 12,183

C 13,173

D 13,183

2.  $540,064 - 48,945$

F 401,119

G 419,119

H 491,119

J 501,119

3. 45,752 people attended a Rangers baseball game on a Saturday. 38,681 people attended a Rangers game the next day. How many more people attended the Saturday game than the Sunday game?

A 6,071

B 6,171

C 7,071

D 7,171

4. **Writing to Explain** In 2003, the population of Dallas, TX, was 1,208,318. The population of Fort Worth was 585,122. How many more people lived in Dallas than Fort Worth? What was the combined population of Dallas and Fort Worth in 2003? Show your work.

1. Estimate  $114 + 78$ .

- A 200
- B 190
- C 180
- D 170

2. Round to the nearest whole number to estimate

$$8.76 + 12.32 + 6.18.$$

- F 27
- G 28
- H 29
- J 30

3. Lowell bought a drink for \$1.90, a sandwich for \$2.25, and an apple for \$.75. Which is the best estimate of how much money he spent?

- A \$4.00
- B \$5.00
- C \$6.00
- D \$7.00

4. Estimate  $8,879 - 4,254$ .

- F 5,000
- G 4,000
- H 3,000
- J 2,000

5. **Writing to Explain** Jill's family is putting new carpet in three rooms. The floor of one room is  $120 \text{ ft}^2$ . The floor of the second room is  $252 \text{ ft}^2$ , and the floor of the third room is  $178 \text{ ft}^2$ . Jill estimated the total number of square feet of carpet needed for the three rooms as  $500 \text{ ft}^2$ . Did she overestimate or underestimate? Explain.

Estimate each product.

1. Lance has 12 boxes of comic books. Each box has 28 comic books in it. About how many comic books does Lance have?

A 336  
B 325  
C 300  
D 250

2.  $92 \times 29$

F about 2,700  
G about 2,400  
H about 1,800  
J about 270

3. Which two numbers have an estimated product of about 600?

A  $32 \times 22$   
B  $34 \times 28$   
C  $62 \times 17$   
D  $59 \times 22$

4. **Writing to Explain** Tickets for a concert cost \$29.00. The greatest number of tickets one person can buy is 9. If 28 people each buy 9 tickets for \$29.00 per ticket, about what is the total cost of all the tickets? Is your estimate an overestimate or an underestimate? Explain.

Find the product.

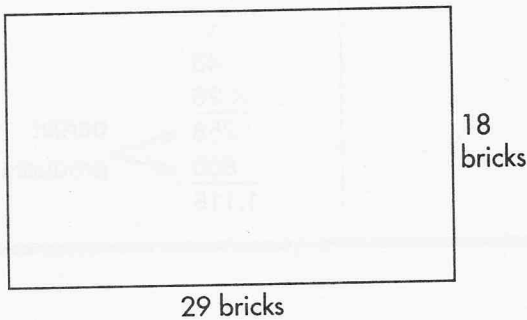
1. 
$$\begin{array}{r} 24 \\ \times 41 \\ \hline \end{array}$$

- A 884  
B 960  
C 984  
D 1,060

2. At a basketball game, there were 37 rows of bleachers. There were 28 people sitting in each row. How many people were in the 37 rows of bleachers?

- F 896  
G 936  
H 986  
J 1,036

- 3.
- Writing to Explain**
- Sharon is building a rectangular patio. The patio will be 18 bricks wide and 29 bricks long. She has 500 bricks. Does she have enough bricks to build the patio? Explain. Show your work.



Use mental math to find each product.

1. Kristin has 30 boxes. Each box has 800 greeting cards. How many greeting cards are in the boxes?

A 24  
B 240  
C 2,400  
D 24,000

2.  $5,000 \times 600$

F 30,000,000  
G 3,000,000  
H 30,000  
J 3,000

3. Which is a possible solution for

\_\_\_  $\times$  \_\_\_  $\times$  \_\_\_ = 16,000?

A  $80 \times 20 \times 1$   
B  $800 \times 200 \times 0$   
C  $800 \times 2 \times 1$   
D  $80 \times 20 \times 10$

4. **Writing to Explain** A book publisher is shipping a new book in boxes of 200. If 30 boxes fit in 1 shipping crate, how many books are in 20 shipping crates? Explain the mental math you used to solve the problem.

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- Use rounding to estimate the quotient.  $415 \div 8$ 
  - 5
  - 6
  - 50
  - 60
- Use compatible numbers to estimate the quotient.  $435 \div 7$ 
  - 70
  - 60
  - 7
  - 6
- A school held a food drive. The 8 classrooms collected 307 cans of food. Each classroom collected about the same number. About how many cans of food did each classroom collect?
  - 30
  - 40
  - 42
  - 45
- Writing to Explain** Tarek is dividing his 483 baseball cards among his 5 younger cousins. About how many baseball cards could he give each of his cousins? Use compatible numbers and rounding to overestimate and underestimate. Explain your work.



Use mental math to find each quotient.

1.  $4,800 \div 80 =$

- A 6
- B 60
- C 600
- D 6,000

2. A paper company has 30 boxes of paper ready to ship. There are 27,000 pieces of paper in the boxes. If each box has an equal number of pieces of paper, how many pieces of paper are in each box?

- F 9
- G 90
- H 900
- J 9,000

3.  $16,000 \div 40 =$

- A 4,000
- B 400
- C 40
- D 4

4. 360 fifth-graders went on a field trip. On the trip, they were divided into groups with 40 students in each group. How many groups were there?

- F 9
- G 6
- H 4
- J 2

5. **Writing to Explain** A theater company made 6,000 programs for their current play. The play will have 20 performances. If they would like to have the same number of programs available for each performance, how many programs should they count out for the first performance? Use mental math to find the answer. Explain how you got your answer.

Name \_\_\_\_\_

Estimate using compatible numbers.

1.  $567 \div 82 \approx$

- A 5
- B 6
- C 7
- D 8

2.  $2,512 \div 65 \approx$

- F 50
- G 40
- H 30
- J 25

3. An elementary school has 1,558 students. There are 48 classes. Estimate the number of students in each class.

- A about 50
- B about 40
- C about 30
- D about 20

4. **Writing to Explain** Kyle has 314 stamps in his collection. He is placing his stamps in an album with pages that each hold 42 stamps. He estimates he will need about 8 pages. Is he right? Why or why not?

Student	Amount Saved
Percy	\$125
Emily	\$60
George	\$200
James	\$41
Isabella	\$139

Quick Check 6-2