

SIGMABUDGIE · GRADE 4

Place Value & Rounding

A gentle walkthrough & a 24-question exam

Part 1 walks through five-digit numbers, rounding, and estimating from the very beginning, with drawings. Part 2 is a 24-question exam that starts easy and slowly builds to harder, ISEE-style reasoning questions. Work through the lesson together first, then let your child try the exam. The answer key at the back explains every question.

1 · Five places

Bigger numbers just need more places. **46,936** has ten thousands, thousands, hundreds, tens, ones. The comma sits after the thousands to make it easy to read.

Say it: forty-six thousand, nine hundred thirty-six.

Ten thousands	Thousands	Hundreds	Tens	Ones
4	6	9	3	6

46,936

2 · The value of a digit

In 46,936 there are two 6s. The first is in the **thousands** place: worth **6,000**. The last is in the ones: worth 6.

The 9 is in the hundreds place, so it is worth **900**. The place, not the digit, decides the value.

Ten thousands	Thousands	Hundreds	Tens	Ones
4	6	9	3	6

the 9 is worth 900

3 · Expanded form and words

46,936 = 40,000 + 6,000 + 900 + 30 + 6. Each digit times its place.

A zero still holds its place: **40,306 = 40,000 + 300 + 6**. Words: forty thousand, three hundred six.

Ten thousands	Thousands	Hundreds	Tens	Ones
4	0	3	0	6

zero holds the tens place

4 • Comparing and ordering

Start from the **left**. 47,311 or 46,936? Ten thousands tie (4 and 4). Thousands: 7 beats 6. So **47,311 > 46,936**.

More digits always wins: $9,999 < 10,000$.

Ten thousands	Thousands	Hundreds	Tens	Ones
4	7	3	1	1

47,311

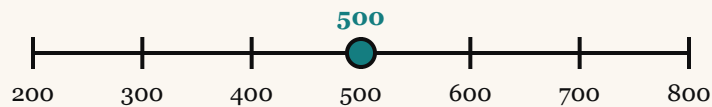
Ten thousands	Thousands	Hundreds	Tens	Ones
4	6	9	3	6

46,936: the thousands decide it

5 • Halfway between

Halfway between 200 and 800: the distance is 600, half of that is 300, so $200 + 300 = 500$. Or add and halve: $(200 + 800) \div 2 = 500$.

Halfway between 720 and 1,320: distance 600, half 300, $720 + 300 = 1,020$.

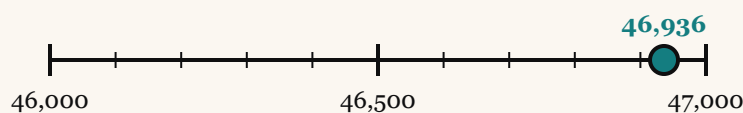


500 is halfway

6 • Rounding to any place

Find the place you are rounding to, then look at the digit **one place to the right**. 5 or more: round up. 4 or less: keep it, and everything after becomes 0.

46,936 to the nearest thousand: the hundreds digit is 9, so round up to **47,000**. To the nearest hundred: tens digit 3, keep: **46,900**.



46,936 is closer to 47,000

7 • Rounding to the nearest ten thousand

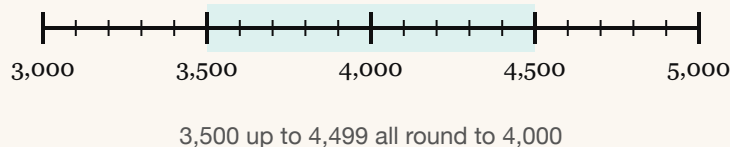
46,936 to the nearest ten thousand: look at the thousands digit, 6. Round up: **50,000**.

14,223: thousands digit 4, keep: **10,000**.

8 • What could the number be?

"A number rounds to 4,000 at the nearest thousand. What is the smallest it could be?" Everything from **3,500** to **4,499** rounds to 4,000. Smallest: 3,500. Largest: 4,499.

The band always starts at the halfway point below and ends just before the halfway point above.



9 • Estimating sums and differences

2,987 + 4,120: round to 3,000 + 4,000 = **about 7,000**. **8,050 - 3,975**: 8,000 - 4,000 = **about 4,000**.

Estimate first, then calculate. If your exact answer is far from the estimate, check again.

10 • Adding four-digit numbers

Same as always: ones, tens, hundreds, thousands, carrying when a column goes over 9.

2,987 + 4,120: $7 + 0 = 7$. $8 + 2 = 10$, write 0 carry 1. $9 + 1 + 1 = 11$, write 1 carry 1. $2 + 4 + 1 = 7$. Answer **7,107**.

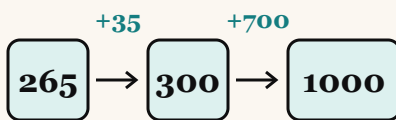
$$\begin{array}{r} 2\ 9\ 8\ 7 \\ +\ 4\ 1\ 2\ 0 \\ \hline 7\ 1\ 0\ 7 \end{array}$$

$$2,987 + 4,120 = 7,107$$

11 · Subtracting across zeros

1,000 – 265: count up instead of borrowing. 265 → 300 is 35. 300 → 1,000 is 700. Total **735**.

Counting up to the next friendly number is faster than borrowing through three zeros.



$$35 + 700 = 735$$

12 · Multi-step number stories

"A warehouse had 1,000 items. It shipped 265, then 296 more, then received 63." $1,000 - 265 = 735$. $735 - 296 = 439$. $439 + 63 = \mathbf{502}$.

One step at a time, writing each answer down. You are ready for the test! 🎉

Read each drawing first, then choose the best answer. Take your time, there is no clock here. Questions start gentle and get harder toward the end. Circle your answer.

- 1 In the number 46,936, what is the value of the digit 9?

Ten thousands	Thousands	Hundreds	Tens	Ones
4	6	9	3	6

- A 9
B 9,000
C 90
D 900

- 2 In the number 47,311, what is the value of the digit 7?

- A 7,000
B 700
C 70,000
D 7

- 3 Which is the same as $40,000 + 300 + 6$?

- A 4,306
B 40,360
C 40,306
D 43,006

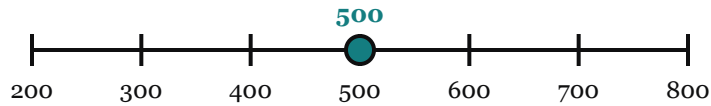
- 4 Which number is greater: 47,311 or 46,936?

- A 46,936
B 47,311
C They are equal
D You cannot tell

- 5 Round 46,936 to the nearest hundred.

- A 46,900
B 47,000
C 46,940
D 46,000

6 Which number is exactly halfway between 200 and 800?



- A** 400 **B** 600
C 300 **D** 500

7 In the number 92,842, what is the value of the digit 8?

- A** 8,000 **B** 800
C 80 **D** 8

8 Round 46,936 to the nearest thousand.

- A** 46,000 **B** 46,900
C 47,000 **D** 50,000

9 How do you write 14,223 in words?

- A** fourteen thousand, two hundred twenty-three **B** one thousand, four hundred twenty-three
C fourteen thousand, twenty-three **D** one hundred forty-two thousand

10 Which shows the numbers in order from least to greatest?

- A** 10,001; 9,999; 10,010
- B** 10,010; 10,001; 9,999
- C** 9,999; 10,010; 10,001
- D** 9,999; 10,001; 10,010

11 Round 14,223 to the nearest ten thousand.

- A** 20,000
- B** 14,000
- C** 10,000
- D** 15,000

12 About how much is $2,987 + 4,120$?

- A** about 6,000
- B** about 7,000
- C** about 8,000
- D** about 70,000

13 Which number has a 5 in the ten thousands place?

A 25,406

B 45,206

C 40,526

D 52,406

14 Which number is exactly halfway between 720 and 1,320?

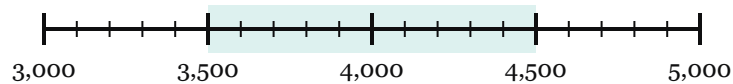
A 1,020

B 1,000

C 900

D 1,070

15 A number rounds to 4,000 at the nearest thousand. What is the smallest whole number it could be?



A 3,999

B 3,500

C 3,501

D 4,001

16 $2,987 + 4,120 = ?$

$$\begin{array}{r} 2\ 9\ 8\ 7 \\ +\ 4\ 1\ 2\ 0 \\ \hline \end{array}$$

A 6,107

B 7,007

C 7,107

D 7,117

17 $1,000 - 265 = ?$

A 745

B 835

C 735

D 635

18 Round 78,927 to the nearest ten thousand.

A 70,000

B 80,000

C 79,000

D 78,900

19 A number rounds to 4,000 at the nearest thousand. What is the largest whole number it could be?

A 4,500

B 4,999

C 4,400

D 4,499

20 What is 1,000 more than 49,500?

A 50,500

B 49,600

C 59,500

D 50,000

21 A warehouse had 1,000 items. It shipped 265, then 296 more, then received 63. How many items does it have now?

A 502

B 376

C 628

D 439

22 In 63,636, how much more is the first 6 worth than the last 6?

A 60,000

B 6,000

C 59,994

D 54,000

23 Which number rounds to 50,000 at the nearest ten thousand AND to 46,000 at the nearest thousand?

A 44,900

B 45,800

C 46,600

D 54,900

24 $8,050 - 3,975 = ?$ Round your answer to the nearest hundred.

A 4,000

B 4,075

C 4,200

D 4,100

ANSWER KEY & EXPLANATIONS

- 1 D** The 9 is in the hundreds place.
-
- 2 A** The 7 is in the thousands place.
-
- 3 C** Zeros hold the thousands and tens places: 40,306.
-
- 4 B** Ten thousands tie; thousands: 7 beats 6.
-
- 5 A** The tens digit is 3, so keep the hundreds: 46,900.
-
- 6 D** $(200 + 800) \div 2 = 500$.
-
- 7 B** The 8 is in the hundreds place.
-
- 8 C** The hundreds digit is 9, so round up to 47,000.
-
- 9 A** 14 thousands, 2 hundreds, 2 tens, 3 ones.
-
- 10 D** 9,999 has fewer digits, so it is smallest. Then 10,001, then 10,010.
-
- 11 C** The thousands digit is 4, so keep 10,000.
-
- 12 B** Round: $3,000 + 4,000 = 7,000$.
-
- 13 D** The ten thousands digit is the first digit of a five-digit number: 52,406.
-
- 14 A** The distance is 600; half is 300. $720 + 300 = 1,020$.
-
- 15 B** 3,500 is the first number that rounds up to 4,000.
-
- 16 C** Add column by column with carries: 7,107.
-
- 17 C** Count up: $265 \rightarrow 300$ is 35, $300 \rightarrow 1,000$ is 700. 735.
-
- 18 B** The thousands digit is 8, so round up to 80,000.
-
- 19 D** 4,499 rounds down to 4,000; 4,500 would round up to 5,000.
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- 20 A** $49,500 + 1,000 = 50,500$. The thousands roll over into the ten thousands.
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- 21 A** $1,000 - 265 = 735$. $735 - 296 = 439$. $439 + 63 = 502$.
-
- 22 C** The first 6 is 60,000 and the last is 6. $60,000 - 6 = 59,994$.
-
- 23 B** $45,800 \rightarrow 50,000$ (thousands digit 5) and $\rightarrow 46,000$ (hundreds digit 8). 44,900 rounds to 40,000; 46,600 rounds to 47,000; 54,900 rounds to 55,000.
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- 24 D** $8,050 - 3,975 = 4,075$, which rounds to 4,100.
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