

Place Value and Rounding: practice solutions, Grade 4 – download the PDF

Written solutions to the chapter problems. Check each step, then correct yourself.

1 Value of each digit



Read each place from left to right.

- 5 is in the hundred thousands place: **500,000**.
- 8 is in the ten thousands place: **80,000**.
- 3 is in the thousands place: **3,000**.
- 2 is in the hundreds place: **200**.
- 1 is in the tens place: **10**.
- 4 is in the ones place: **4**.

Check: $500,000 + 80,000 + 3,000 + 200 + 10 + 4 = 583,214$.

2 Video views



The digits are 7, 0, 5, 4, 2, 0 from left to right.

- (a) The ten thousands place holds the digit **0**.
- (b) The 5 is in the thousands place, so it is worth **5,000**.
- (c) The 4 is in the hundreds place, so it is worth **400**.

3 From words to digits



- a. The thousands period is 460 and the ones period is 209: **460,209**.
- b. The thousands period is 81 and the ones period is 007 (we need placeholder zeros): **81,007**.
- c. The thousands period is 500 and the ones period is 030: **500,030**.

4 From digits to words



- a. seventy-two thousand, five hundred forty
- b. three hundred five thousand, six
- c. one million

Remember: no “and,” and a hyphen between the tens and ones words from 21 to 99.

5 Which symbol?



- a. The numbers **4,805** and **4,850** match in the thousands and hundreds, then differ in the tens place, where 0 is less than 5. So **4,805 < 4,850**.
- b. **67,210** has five digits and **9,999** has four, so **67,210 > 9,999**.
- c. **300,000 + 5,000 = 305,000**, so they are **equal**.
- d. The numbers match in the ten thousands, thousands and hundreds places (1, 2 and 3). In the tens place, 4 is greater than 0, so **12,340 > 12,304**.

6 Rounding to the nearest ten



- a. The ones digit is 7, so round up: **70**.
- b. The ones digit is 4, so keep the tens: **350**.
- c. The ones digit is 6, so round up: **2,400**.

7 Ten times as much



- a. $10 \times 90 = 900$.
- b. $10 \times 4,000 = 40,000$.
- c. $8,000 = 10 \times 800$, so the blank is **800**.
- d. $50,000 = 10 \times 5,000$, so the blank is **5,000**.

8 Comparing two digits



The three digits are in the hundred thousands, ten thousands and thousands places.

(a) The first 3 is worth **300,000** and the second 3 is worth **30,000**. Since $300,000 = 10 \times 30,000$, the answer is **yes**.

(b) The 5 is worth **5,000**. Since $30,000 \div 5,000 = 6$, the 3 is worth 6 times the 5, so the answer is **no**. The ten times rule compares the *same digit* in neighboring places.

9 Expanded form



- a. $538,206 = 500,000 + 30,000 + 8,000 + 200 + 6$.
- b. $70,090 = 70,000 + 90$ (the zeros are skipped).
- c. The sum has no ten thousands and no hundreds, so those places are zeros: **604,051**.

10 Putting numbers in order



All have five digits. The numbers starting with 83 are smaller than those starting with 85.

Among **83,051** and **83,501**, the hundreds digit decides: 0 is less than 5. Among **85,031** and **85,301**, the hundreds digit decides again: 0 is less than 3.

$83,051 < 83,501 < 85,031 < 85,301$.

11 Stadium seats



The bars show A: **38,000**, B: **52,000**, C: **27,000**, D: **45,000**, E: **61,000**.

(a) $E (61,000) > B (52,000) > D (45,000) > A (38,000) > C (27,000)$.

(b) Look at the thousands digit. A: 8 rounds up to **40,000**. B: 2 rounds down to **50,000**. C: 7 rounds up to **30,000**. D: 5 rounds up to **50,000**. E: 1 rounds down to **60,000**.

12 Rounding to the nearest hundred



Look at the tens digit each time.

a. The tens digit is 6: **3,500**.

b. The tens digit is 5: round up to **9,000**.

c. The tens digit is 4: stay at **12,000**.

d. The tens digit is 5, so the 9 in the hundreds place goes up and carries over: **100,000**.

13 Muffin sales



(a) The hundreds digit is 6, so round up: **25,000**.

(b) The thousands digit is 4, so round down: **20,000**.

(c) $25,000 - 24,618 = 382$ and $24,618 - 20,000 = 4,618$. The estimate **25,000** is much closer, because rounding to a smaller place keeps more detail.

14 A hiking estimate



(a) $7,845 \approx 8,000$ and $5,190 \approx 5,000$, so the total is about $8,000 + 5,000 = 13,000$ feet.

(b) No. The exact total is $7,845 + 5,190 = 13,035$ feet, so **15,000** is about **2,000** feet too high. The estimate **13,000** is much better.

15

Mystery number

Work one clue at a time.

- Hundred thousands: 7.
- Ten thousands: $7 - 4 = 3$.
- Thousands: $2 \times 3 = 6$.
- Hundreds: 0.
- Tens: $3 + 6 = 9$.
- Ones: $6 + 1 = 7$.

The mystery number is **736,097**.

16

Greatest and least

- (a) Put the greatest digits in the greatest places: 9, 7, 5, 4, 2, 0, giving **975,420**.
- (b) The first digit cannot be 0, so the smallest possible first digit is 2. Then use the rest from least to greatest: 0, 4, 5, 7, 9. The least number is **204,579**.

17

All the numbers that round to 650,000

Numbers round to **650,000** if they are closer to it than to **640,000** or **660,000**. The midpoints are **645,000** and **655,000**.

645,000 rounds up to **650,000** because its thousands digit is 5. **654,999** rounds down to **650,000** because its thousands digit is 4, but **655,000** rounds up to **660,000**.

The least is **645,000** and the greatest is **654,999**.

18 Find the mistake



Maya looked at the hundreds digit, but the rule says to look at the digit to the **right** of the rounding place. For the nearest hundred, that digit is the tens digit, which is 9.

Since 9 is 5 or more, the hundreds digit 5 goes up to 6, and the rest becomes zeros. The correct answer is **3,600**.

19 True or false?



- a. **True.** $10 \times 6,000 = 60,000$.
- b. **False.** $10 \times 9 = 90$. Since $900 = 100 \times 9$, it is 100 times as much.
- c. **True.** In **4,500** the hundreds digit is 5, so round up. In **4,499** the hundreds digit is 4, so round down.
- d. **False.** The hundreds digit is 2, so the thousands digit stays: **38,000**.

20 Rounding to the nearest hundred thousand



Look at the ten thousands digit.

- **449,999**: the digit is 4, so **400,000**.
- **450,000**: the digit is 5, so **500,000**.
- **512,300**: the digit is 1, so **500,000**.
- **549,999**: the digit is 4, so **500,000**.

The numbers **449,999** and **450,000** differ by 1 but round to **400,000** and **500,000**. That is because **450,000** is exactly the midpoint, and the midpoint rounds up.

21

Tickets and precision

(a) $19,000 + 21,000 + 19,000 = 59,000$.

(b) $20,000 + 20,000 + 20,000 = 60,000$.

(c) The exact total is $18,740 + 21,380 + 19,260 = 59,380$. It is less than **60,000**, so the answer is **no**.

The estimate to the nearest thousand (**59,000**) was more helpful, because the rougher estimate of **60,000** hid the fact that the total is below **60,000**.

**Test yourself: quick challenge for Grade 4**[Change level](#)

Level : **Grade 4**

6 random questions, instant feedback.

**Start the challenge****Keep exploring with Zyro****Math practice****Math quizzes**

Place Value and Rounding: math
practice, Grade 4

Place Value and Rounding: math quiz,
Grade 4



Math tests

Place Value and Rounding: math test,
Grade 4



Math practice

Adding and Subtracting Whole
Numbers: math practice, Grade 4



Math practice

Multiplicative Comparison and Factors:
math practice, Grade 4



Math quizzes

Adding and Subtracting Whole
Numbers: math quiz, Grade 4

Zyro vous emmène sur nos sites partenaires

Embarquez pour d'autres planètes du savoir et leurs applis.

Décollage