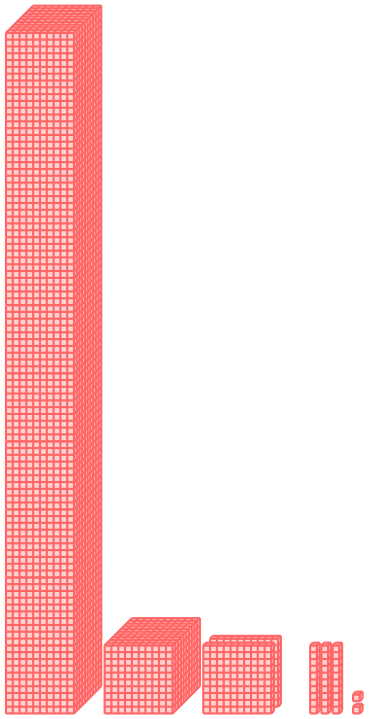
# WHOLE NUMBERS

## A BUILDING NUMBERS

### A.1 COUNTING CUBES IN A TABLE

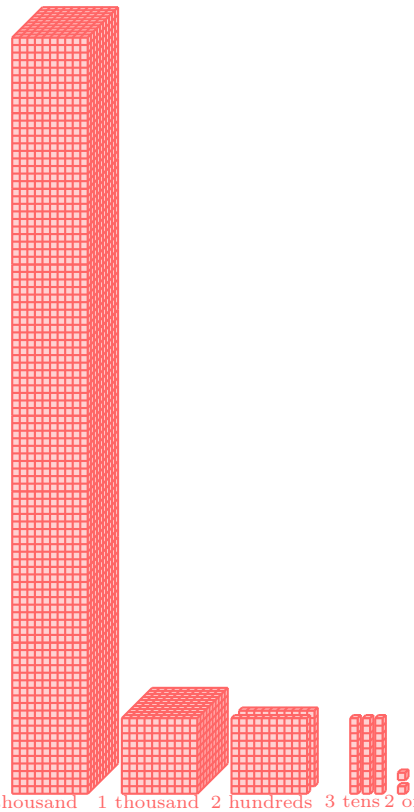
**Ex 1:**



The number of cubes is

| Ten thousands | Thousands | Hundreds | Tens | Ones |
|---|---|---|---|---|
| 1 | 1 | 2 | 3 | 2 |

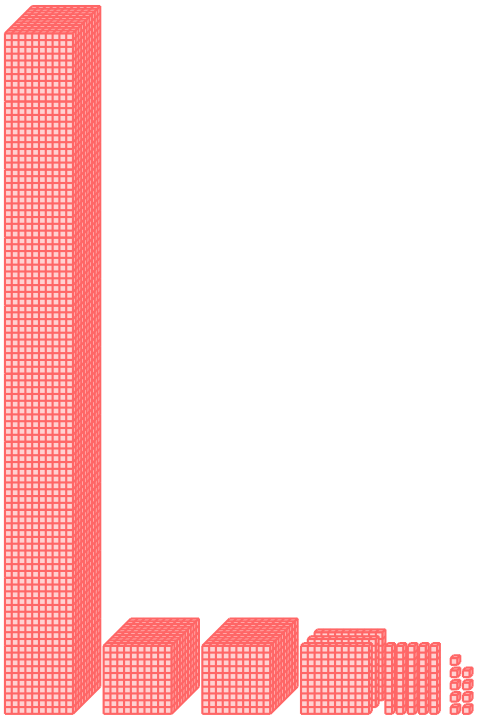
*Answer:*



- 1 ten thousand 1 thousand 2 hundreds 3 tens 2 ones

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
|---|---|---|---|---|
| 1 | 1 | 2 | 3 | 2 |

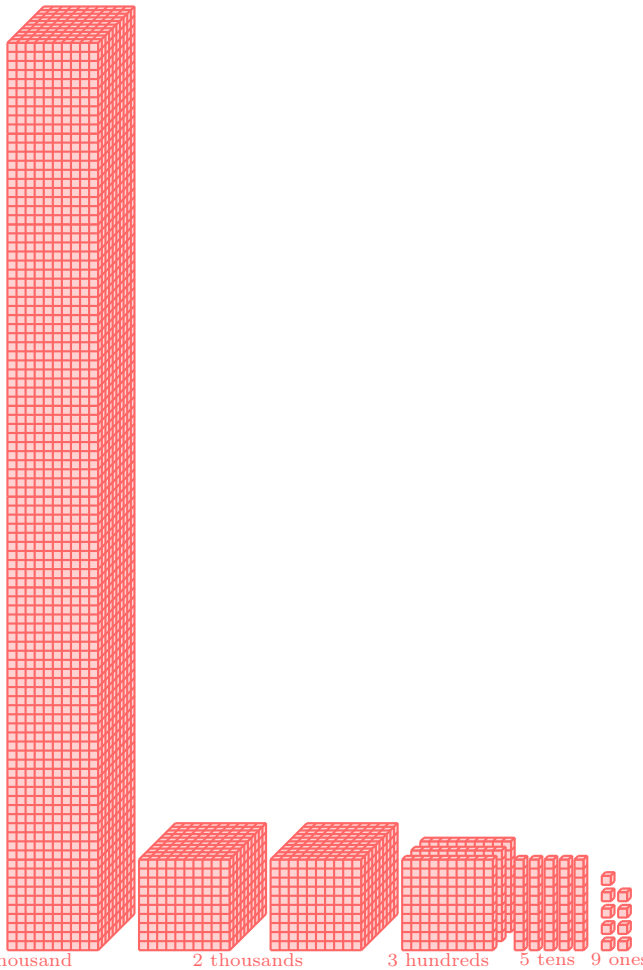
**Ex 2:**



The number of cubes is

| Ten thousands | Thousands | Hundreds | Tens | Ones |
|---|---|---|---|---|
| 1 | 2 | 3 | 5 | 9 |

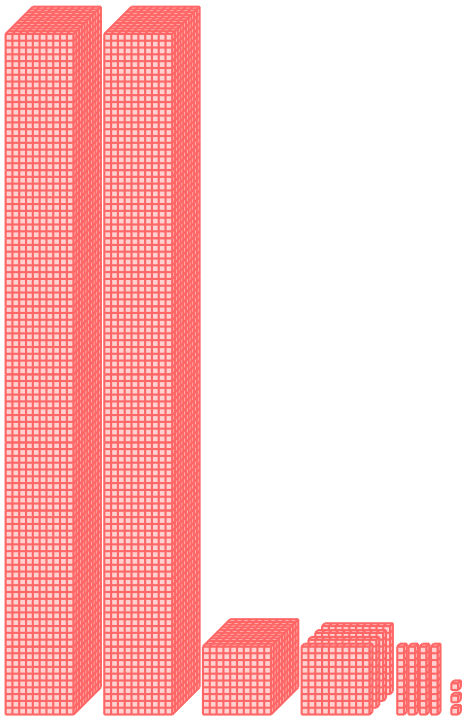
*Answer:*



- 1 ten thousand 2 thousands 3 hundreds 5 tens 9 ones

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 1 | 2 | 3 | 5 | 9 |

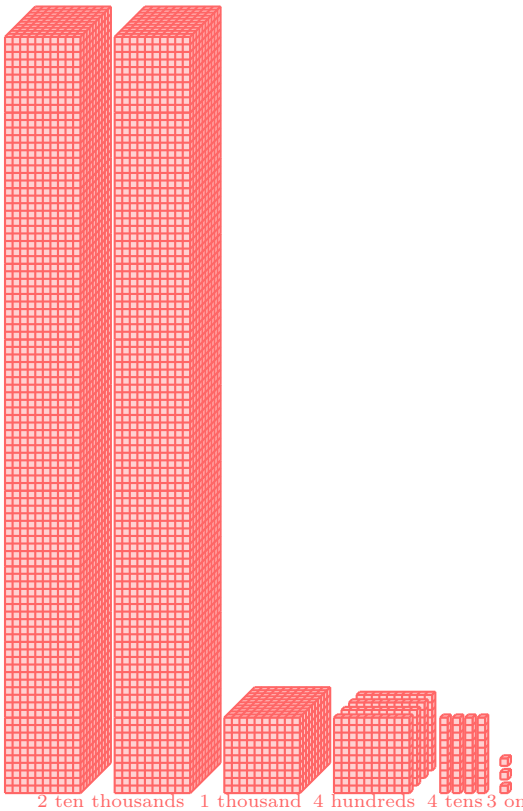
**Ex 3:**



The number of cubes is

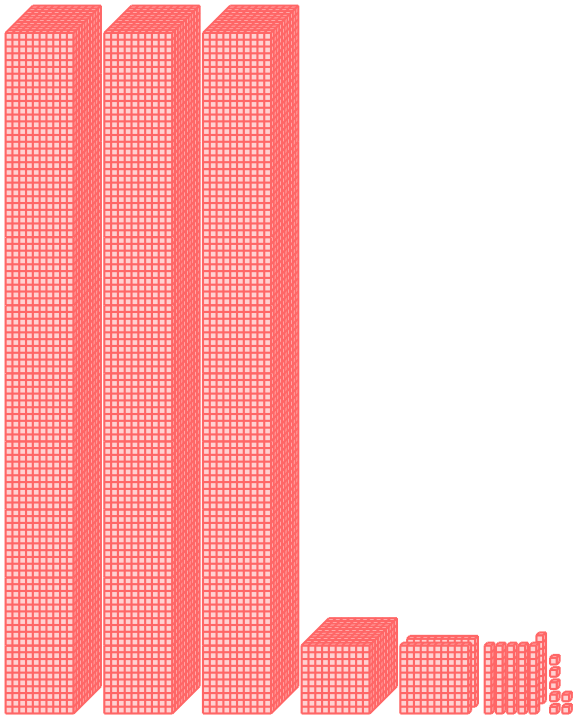
| Ten thousands | Thousands | Hundreds | Tens | Ones |
|---|---|---|---|---|
| 2 | 1 | 4 | 4 | 3 |

*Answer:*




- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 2 | 1 | 4 | 4 | 3 |

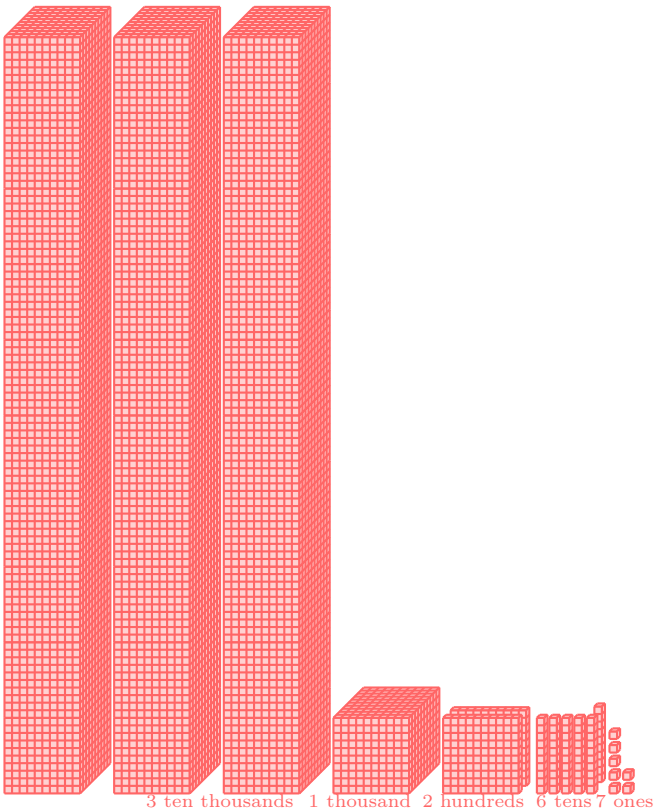
**Ex 4:**



The number of cubes is

| Ten thousands | Thousands | Hundreds | Tens | Ones |
|---|---|---|---|---|
| 3 | 1 | 2 | 6 | 7 |

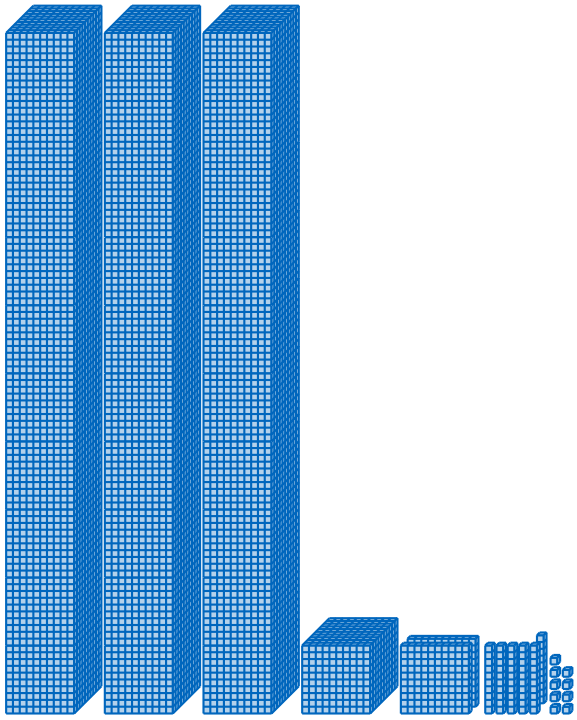
*Answer:*




- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 3 | 1 | 2 | 6 | 7 |

## A.2 COUNTING CUBES

**Ex 5:**



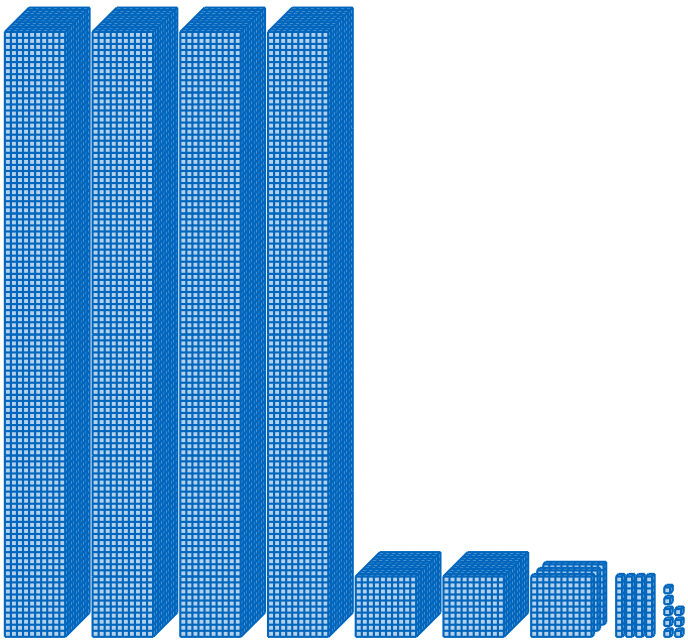
The number of cubes is $\boxed{31269}$.

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 3 | 1 | 2 | 6 | 9 |

- The number of cubes is 31 269.

**Ex 6:**



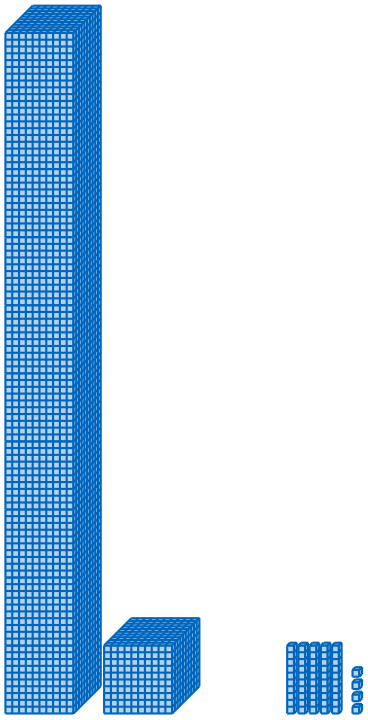
The number of cubes is $\boxed{42348}$.

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 4 | 2 | 3 | 4 | 8 |

- The number of cubes is 42 348.

**Ex 7:**



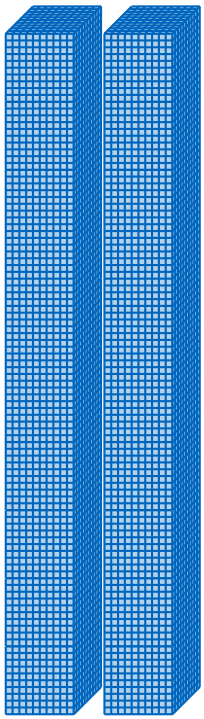
The number of cubes is $\boxed{11054}$.

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 1 | 1 | 0 | 5 | 4 |

- The number of cubes is 11 054.

**Ex 8:**



The number of cubes is $\boxed{20000}$.

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 2 | 0 | 0 | 0 | 0 |

- The number of cubes is 20 000.

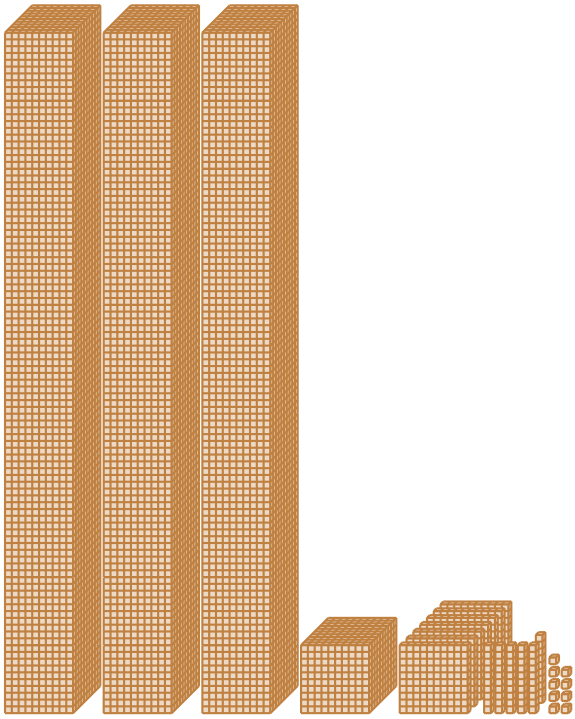
## A.3 COUNTING CUBES FROM A TABLE

**Ex 9:**

| Ten thousands | Thousands | Hundreds | Tens | Ones |
|---|---|---|---|---|
| 3 | 1 | 7 | 6 | 9 |

The number is $\boxed{31769}$.

*Answer:*

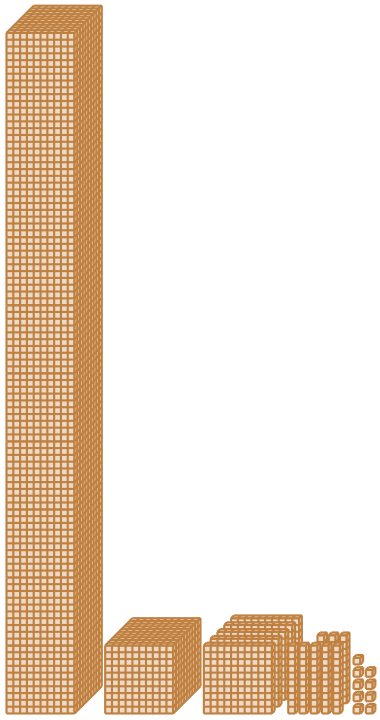
- 3 ten thousands + 1 thousand + 7 hundreds + 6 tens + 9 ones.
- 
- $30\,000 + 1\,000 + 700 + 60 + 9$
- The number is 31 769.

**Ex 10:**

| Ten thousands | Thousands | Hundreds | Tens | Ones |
|---|---|---|---|---|
| 1 | 1 | 5 | 8 | 9 |

The number is $\boxed{11589}$.

*Answer:*

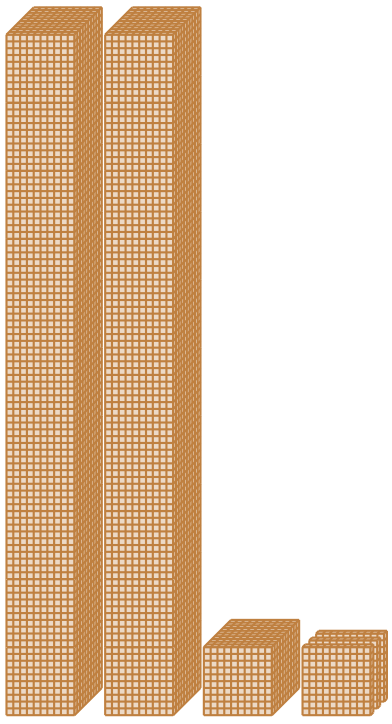
- 1 ten thousands + 1 thousand + 5 hundreds + 8 tens + 9 ones.
- 
- $10\,000 + 1\,000 + 500 + 80 + 9$
- The number is 11 589.

**Ex 11:**

| Ten thousands | Thousands | Hundreds | Tens | Ones |
|---|---|---|---|---|
| 2 | 1 | 3 | 0 | 0 |

The number is $\boxed{21300}$.

*Answer:*

- 2 ten thousands + 1 thousand + 3 hundreds+ 0 tens+ 0 ones.
- 
- $20\,000 + 1\,000 + 300 + 0 + 0$
- The number is 21 300.

## A.4 FINDING THE DIGIT

**Ex 12:** The digit in the hundreds place of 24 325 is $\boxed{3}$.

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 2 | 4 | 3 | 2 | 5 |

- The digit in the hundreds place of 24 325 is 3.

**Ex 13:** The digit in the ten thousands place of 41 092 is $\boxed{4}$.

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 4 | 1 | 0 | 9 | 2 |

- The digit in the ten thousands place of 41 092 is 4.

**Ex 14:** The digit in the ones place of 4 109 is $\boxed{9}$.

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 0 | 4 | 1 | 0 | 9 |

- The digit in the ones place of 4 109 is 9.

**Ex 15:** The digit in the tens place of 31 267 is $\boxed{6}$.

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 3 | 1 | 2 | 6 | 7 |

- The digit in the tens place of 31 267 is 6.

**Ex 16:** The digit in the thousands place of 21 443 is $\boxed{1}$.

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 2 | 1 | 4 | 4 | 3 |

- The digit in the thousands place of 21 443 is 1.

## A.5 WRITING NUMBERS FROM TEN THOUSANDS, THOUSANDS, HUNDREDS, TENS, AND ONES

**Ex 17:** 3 ten thousands + 2 thousands + 3 hundreds + 2 tens + 8 ones = $\boxed{32328}$

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 3 | 2 | 3 | 2 | 8 |

- 3 ten thousands + 2 thousands + 3 hundreds + 2 tens + 8 ones =32 328

**Ex 18:** 4 ten thousands + 5 thousands + 1 hundred + 9 tens + 6 ones = $\boxed{45196}$

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 4 | 5 | 1 | 9 | 6 |

- 4 ten thousands + 5 thousands + 1 hundred + 9 tens + 6 ones =45 196

**Ex 19:** 6 ten thousands + 1 thousand + 5 hundreds + 2 tens + 9 ones = $\boxed{61529}$

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 6 | 1 | 5 | 2 | 9 |

- 6 ten thousands + 1 thousand + 5 hundreds + 2 tens + 9 ones =61 529

**Ex 20:** 2 ten thousands + 7 hundreds + 4 tens + 3 ones = $\boxed{20743}$

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 2 | 0 | 7 | 4 | 3 |

- 2 ten thousands + 0 thousands + 7 hundreds + 4 tens + 3 ones =20 743

## A.6 WRITING NUMBERS FROM EXPANDED FORM

**Ex 21:** $30\,000 + 2\,000 + 300 + 20 + 8 = \boxed{32328}$

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 3 | 2 | 3 | 2 | 8 |

- $30\,000 + 2\,000 + 300 + 20 + 8 = 32\,328$

**Ex 22:** $40\,000 + 5\,000 + 100 + 90 + 6 = \boxed{45196}$

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 4 | 5 | 1 | 9 | 6 |

- $40\,000 + 5\,000 + 100 + 90 + 6 = 45\,196$

**Ex 23:** $20\,000 + 700 + 40 + 3 = \boxed{20743}$

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 2 | 0 | 7 | 4 | 3 |

- $20\,000 + 700 + 40 + 3 = 20\,743$

**Ex 24:** $60\,000 + 1\,000 + 500 + 20 + 9 = \boxed{61529}$

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 6 | 1 | 5 | 2 | 9 |

- $60\,000 + 1\,000 + 500 + 20 + 9 = 61\,529$

### A.7 WRITING NUMBERS FROM EXPANDED FORM

**Ex 25:** $6 \times 10\,000 + 2 \times 1\,000 + 5 \times 100 + 2 \times 10 + 9 \times 1 =$ $\boxed{62529}$

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 6 | 2 | 5 | 2 | 9 |
- $6 \times 10\,000 + 2 \times 1\,000 + 5 \times 100 + 2 \times 10 + 9 \times 1 = 62\,529$

**Ex 26:** $4 \times 10\,000 + 3 \times 1\,000 + 7 \times 100 + 1 \times 10 + 6 \times 1 =$ $\boxed{43716}$

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 4 | 3 | 7 | 1 | 6 |
- $4 \times 10\,000 + 3 \times 1\,000 + 7 \times 100 + 1 \times 10 + 6 \times 1 = 43\,716$

**Ex 27:** $1 \times 10\,000 + 2 \times 1\,000 + 8 \times 100 + 5 \times 10 + 0 \times 1 =$ $\boxed{12850}$

*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 1 | 2 | 8 | 5 | 0 |
- $1 \times 10\,000 + 2 \times 1\,000 + 8 \times 100 + 5 \times 10 + 0 \times 1 = 12\,850$

**Ex 28:** $5 \times 10\,000 + 9 \times 1\,000 + 0 \times 100 + 3 \times 10 + 7 \times 1 =$ $\boxed{59037}$

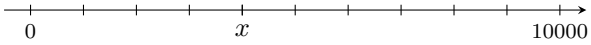
*Answer:*

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
  |---|---|---|---|---|
  | 5 | 9 | 0 | 3 | 7 |
- $5 \times 10\,000 + 9 \times 1\,000 + 0 \times 100 + 3 \times 10 + 7 \times 1 = 59\,037$

## B ON THE NUMBER LINE

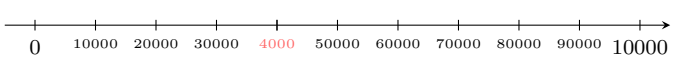
### B.1 FINDING NUMBERS

**Ex 29:**



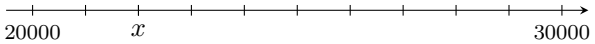

$x =$ $\boxed{4000}$

*Answer:*



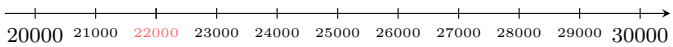

$x =$ 4 000

**Ex 30:**



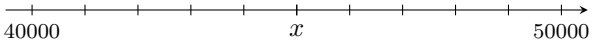

$x =$ $\boxed{22000}$

*Answer:*



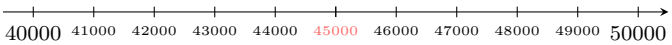

$x =$ 22 000

**Ex 31:**



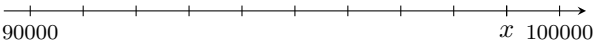

$x =$ $\boxed{45000}$

*Answer:*



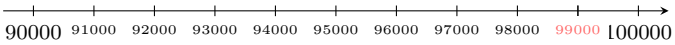

$x = 45\,000$

**Ex 32:**




$x =$ $\boxed{99000}$

*Answer:*




$x = 99\,000$

## C BIG NUMBERS

### C.1 COUNTING FROM A TABLE

**Ex 33:**

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 0 | 0 | 0 | 0 | 0 | 1 | 2 | 5 | 0 | 0 | 0 | 0 |

The number is $\boxed{1250000}$.

*Answer:* The number is 1 250 000.

**Ex 34:**

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |

The number is $\boxed{12000000}$.

*Answer:* The number is 12 000 000.

**Ex 35:**

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 0 | 0 | 0 | 1 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |

The number is $\boxed{135000000}$.

*Answer:* The number is 135 000 000.

**Ex 36:**

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 3 | 4 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

The number is $\boxed{340120000000}$.

*Answer:* The number is 340 120 000 000.

## C.2 WRITING NUMBERS FROM WORDS

**Ex 37:** One million two hundred fifty thousand is $\boxed{1250000}$.

*Answer:*

- One million two hundred fifty thousand is:

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 0 | 0 | 0 | 0 | 0 | 1 | 2 | 5 | 0 | 0 | 0 | 0 |

- One million two hundred fifty thousand is 1 250 000.

**Ex 38:** Twenty-five million four hundred thousand is $\boxed{25400000}$.

*Answer:*

- Twenty-five million four hundred thousand is:

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 0 | 0 | 0 | 0 | 2 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |

- Twenty-five million four hundred thousand is 25 400 000.

**Ex 39:** One hundred ninety million is $\boxed{190000000}$.

*Answer:*

- One hundred ninety million is:

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 0 | 0 | 0 | 1 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

- One hundred ninety million is 190 000 000.

**Ex 40:** Twenty-one billion seven hundred million is $\boxed{21700000000}$.

*Answer:*

- Twenty-one billion seven hundred million is:

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 0 | 2 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

- Twenty-one billion seven hundred million is 21 700 000 000.

## C.3 COUNTING IN REAL-WORLD PROBLEMS

**Ex 41:** The Jurassic era was about one hundred and fifty million years ago. Write this number in positional notation:

$\boxed{150000000}$ years ago

*Answer:*

- One hundred fifty million is:

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 0 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

- One hundred fifty million is 150 000 000 years ago.

**Ex 42:** The estimated global population in 2020 was about seven billion eight hundred million people. Write this number in positional notation:

$\boxed{7800000000}$ people

*Answer:*

- Seven billion eight hundred million is:

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 0 | 0 | 7 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

- Seven billion eight hundred million people is 7 800 000 000 people.

**Ex 43:** Astronomers estimate that our galaxy, the Milky Way, contains about two hundred fifty billion stars. Write this number in positional notation:

$\boxed{250000000000}$ stars

*Answer:*

- Two hundred fifty billion is:

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

- Two hundred fifty billion stars is 250 000 000 000 stars.

**Ex 44:** The approximate average distance between the Earth and the Sun is about one hundred fifty million kilometers. Write this number in positional notation:

$\boxed{150000000}$ kilometers

*Answer:*

- One hundred fifty million is:

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 0 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

- One hundred fifty million kilometers is 150 000 000 kilometers.

**Ex 45:** Throughout an average human lifetime, the heart beats approximately three billion times. Write this number in positional notation:

$\boxed{3000000000}$ heartbeats

*Answer:*

- Three billion is:

| billions | | | millions | | | thousands | | | units | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | T | U | H | T | U | H | T | U | H | T | U |
| 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

- Three billion heartbeats is 3 000 000 000.

# D COMPARING NUMBERS

## D.1 COMPARING NUMBERS

**Ex 46: Compare:**

$$352 \boxed{>} 289$$

*Answer:*

- Both numbers have 3 digits. We proceed to compare the leftmost digit (hundreds place).
- The number 352 has a **3** in the hundreds place.
- The number 289 has a **2** in the hundreds place.
- Since $3 > 2$, it is concluded that **352** $>$ **289**. No further comparison is necessary.

**Ex 47: Compare:**

$$461 \boxed{>} 438$$

*Answer:*

- Both numbers have 3 digits. We compare from the leftmost digit.
- The hundreds digits are identical (4). We proceed to the tens place.
- The number 461 has a **6** in the tens place.
- The number 438 has a **3** in the tens place.
- Since $6 > 3$, it is concluded that **461** $>$ **438**.

**Ex 48: Compare:**

$$989 \boxed{<} 1\,023$$

*Answer:*

- First, we compare the number of digits.
- The number 989 has **3 digits**.
- The number 1 023 has **4 digits**.
- The number with more digits is always greater.
- Therefore, it is concluded that **989** $<$ 1 023.

**Ex 49: Compare:**

$$8\,456 \boxed{<} 8\,459$$

*Answer:*

- Both numbers have 4 digits. We compare from the leftmost digit.
- The thousands digits are identical (8).
- The hundreds digits are identical (4).
- The tens digits are identical (5). We proceed to the ones place.
- The number 8 456 has a **6** in the ones place.
- The number 8 459 has a **9** in the ones place.
- Since $6 < 9$, it is concluded that $8\,456 < 8\,459$.

**Ex 50: Compare:**

$$5\,109 \boxed{>} 5\,091$$

*Answer:*

- Both numbers have 4 digits. We compare from the leftmost digit.
- The thousands digits are identical (5). We proceed to the hundreds place.
- The number 5 109 has a **1** in the hundreds place.
- The number 5 091 has a **0** in the hundreds place.
- Since $1 > 0$, it is concluded that $5\,109 > 5\,091$.

**Ex 51: Compare:**

$$23\,456 \boxed{>} 23\,198$$

*Answer:*

- Both numbers have 5 digits. We compare from the leftmost digit.
- The ten thousands digits are identical (2).
- The thousands digits are identical (3). We proceed to the hundreds place.
- The number 23 456 has a **4** in the hundreds place.
- The number 23 198 has a **1** in the hundreds place.
- Since $4 > 1$, it is concluded that $23\,456 > 23\,198$.

# E BOUNDING A NUMBER

## E.1 BOUNDING BY PLACE VALUE

**Ex 52:** Bound the number 482 by the nearest ten.

$$\boxed{480} \leq 482 < \boxed{490}$$

*Answer:*

- The target place value is the tens. The digit is 8.

- **Lower Bound**: Keep the digits to the left and the target digit (48), replace subsequent digits with zeros. The lower bound is 480.
- **Upper Bound**: Add 1 to the tens digit ($8+1=9$). The upper bound is 490.
- Therefore, 482 is bounded by 480 and 490.

So $480 \leq 482 < 490$.

**Ex 53:** Bound the number 7 291 by the nearest thousand.

$$\boxed{7000} \leq 7\,291 < \boxed{8000}$$

*Answer:*

- The target place value is the thousands. The digit is 7.
- **Lower Bound**: Keep the 7, replace subsequent digits with zeros. The lower bound is 7 000.
- **Upper Bound**: Add 1 to the thousands digit ($7+1=8$), replace subsequent digits with zeros. The upper bound is 8 000.
- Therefore, 7 291 is bounded by 7 000 and 8 000.

So $7\,000 \leq 7\,291 < 8\,000$.

**Ex 54:** Bound the number 5 814 by the nearest hundred.

$$\boxed{5800} \leq 5\,814 < \boxed{5900}$$

*Answer:*

- The target place value is the hundreds. The digit is 8.
- **Lower Bound**: Keep the digits to the left and the target digit (58), replace subsequent digits with zeros. The lower bound is 5 800.
- **Upper Bound**: Add 1 to the hundreds digit ($8+1=9$). The upper bound is 5 900.
- Therefore, 5 814 is bounded by 5 800 and 5 900.

So $5\,800 \leq 5\,814 < 5\,900$.

**Ex 55:** Bound the number 45 678 by the nearest ten thousand.

$$\boxed{40000} \leq 45\,678 < \boxed{50000}$$

*Answer:*

- The target place value is the ten thousands. The digit is 4.
- **Lower Bound**: Keep the 4, replace subsequent digits with zeros. The lower bound is 40 000.
- **Upper Bound**: Add 1 to the ten thousands digit ($4+1=5$), replace subsequent digits with zeros. The upper bound is 50 000.
- Therefore, 45 678 is bounded by 40 000 and 50 000.

So $40\,000 \leq 45\,678 < 50\,000$.

**Ex 56:** Bound the number 2 956 by the nearest hundred.

$$\boxed{2900} \leq 2\,956 < \boxed{3000}$$

*Answer:*

- The target place value is the hundreds. The digit is 9.
- **Lower Bound**: Keep the digits to the left and the target digit (29), replace subsequent digits with zeros. The lower bound is 2 900.
- **Upper Bound**: Add 1 to the hundreds digit ($9+1=10$). This carries over, changing the thousands digit from 2 to 3. The upper bound is 3 000.
- Therefore, 2 956 is bounded by 2 900 and 3 000.

So $2\,900 \leq 2\,956 < 3\,000$.

**Ex 57:** Bound the number 8 041 by the nearest hundred.

$$\boxed{8000} \leq 8\,041 < \boxed{8100}$$

*Answer:*

- The target place value is the hundreds. The digit is 0.
- **Lower Bound**: Keep the digits to the left and the target digit (80), replace subsequent digits with zeros. The lower bound is 8 000.
- **Upper Bound**: Add 1 to the hundreds digit ($0+1=1$). The upper bound is 8 100.
- Therefore, 8 041 is bounded by 8 000 and 8 100.

So $8\,000 \leq 8\,041 < 8\,100$.

# F ROUNDING NUMBERS

## F.1 ROUNDING TO THE NEAREST TEN

**Ex 58:** Round the number 263 to the nearest ten.

$$263 \approx \boxed{260}$$

*Answer:*

263 Find the digit in the tens place: 6
263 Look at the digit to the right: 3
Since $3 < 5$, round down: 6 stays the same.
260 Replace all digits to the right with zeros.

$$263 \approx 260$$

**Ex 59:** Round the number 389 to the nearest ten.

$$389 \approx \boxed{390}$$

*Answer:*

389 Find the digit in the tens place: 8
389 Look at the digit to the right: 9
Since $9 \geq 5$, round up: $8+1=9$
390 Replace all digits to the right with zeros.

$$389 \approx 390$$

**Ex 60:** Round the number 2 342 to the nearest ten.

$$2\,342 \approx \boxed{2340}$$

*Answer:*

2 342 Find the digit in the tens place: 4
2 342 Look at the digit to the right: 2
Since $2 < 5$, round down: 4 stays the same.
2 340 Replace all digits to the right with zeros.

$$2\,342 \approx 2\,340$$

**Ex 61:** Round the number 6 779 to the nearest ten.

$$6\,779 \approx \boxed{6780}$$

*Answer:*

6 779 Find the digit in the tens place: 7
6 779 Look at the digit to the right: 9
Since $9 \geq 5$, round up: $7 + 1 = 8$
6 780 Replace all digits to the right with zeros.

$$6\,779 \approx 6\,780$$

## F.2 ROUNDING TO THE NEAREST HUNDRED

**Ex 62:** Round the number 365 to the nearest hundred.

$$365 \approx \boxed{400}$$

*Answer:*

365 Find the digit in the hundreds place: 3
365 Look at the digit to the right: 6
Since $6 \geq 5$, round up by adding 1: $3 + 1 = 4$
400 Replace all digits to the right with zeros.

$$365 \approx 400$$

**Ex 63:** Round the number 2 032 to the nearest hundred.

$$2\,032 \approx \boxed{2000}$$

*Answer:*

2032 Find the digit in the hundreds place: 0
2032 Look at the digit to the right: 3
Since $3 < 5$, round down: 0 stays the same.
2000 Replace all digits to the right with zeros.

$$2\,032 \approx 2\,000$$

**Ex 64:** Round the number 35 695 to the nearest hundred.

$$35\,695 \approx \boxed{35700}$$

*Answer:*

35695 Find the digit in the hundreds place: 6
35695 Look at the digit to the right: 9
Since $9 \geq 5$, add 1: $6 + 1 = 7$.
35700 Replace all digits to the right with zeros.

$$35\,695 \approx 35\,700$$

**Ex 65:** Round the number 40 239 to the nearest hundred.

$$40\,239 \approx \boxed{40200}$$

*Answer:*

40239 Find the digit in the hundreds place: 2
40239 Look at the digit to the right: 3
Since $3 < 5$, round down: 2 stays the same.
40200 Replace all digits to the right with zeros.

$$40\,239 \approx 40\,200$$

## F.3 ROUNDING TO THE NEAREST THOUSAND

**Ex 66:** Round the number 23 100 to the nearest thousand.

$$23\,100 \approx \boxed{23000}$$

*Answer:*

23 100 Find the digit in the thousands place: 3
23 100 Look at the digit to the right: 1
Since $1 < 5$, round down: 3 stays the same.
23 000 Replace all digits to the right with zeros.

$$23\,100 \approx 23\,000$$

**Ex 67:** Round the number 67 645 to the nearest thousand.

$$67\,645 \approx \boxed{68000}$$

*Answer:*

67 645 Find the digit in the thousands place: 7
67 645 Look at the digit to the right: 6
Since $6 \geq 5$, round up: $7 + 1 = 8$
68 000 Replace all digits to the right with zeros.

$$67\,645 \approx 68\,000$$

**Ex 68:** Round the number 9 200 to the nearest thousand.

$$9\,200 \approx \boxed{9000}$$

*Answer:*

9 200 Find the digit in the thousands place: 9
9 200 Look at the digit to the right: 2
Since $2 < 5$, round down: 9 stays the same.
9000 Replace all digits to the right with zeros.

$$9\,200 \approx 9\,000$$

**Ex 69:** Round the number 9 999 to the nearest thousand.

$$9\,999 \approx \boxed{10000}$$

*Answer:*

9 999 Find the digit in the thousands place: 9
9 999 Look at the digit to the right: 9
Since $9 \geq 5$, round up: $9 + 1 = 10$
10000 Replace all digits to the right with zeros.

$$9\,999 \approx 10\,000$$