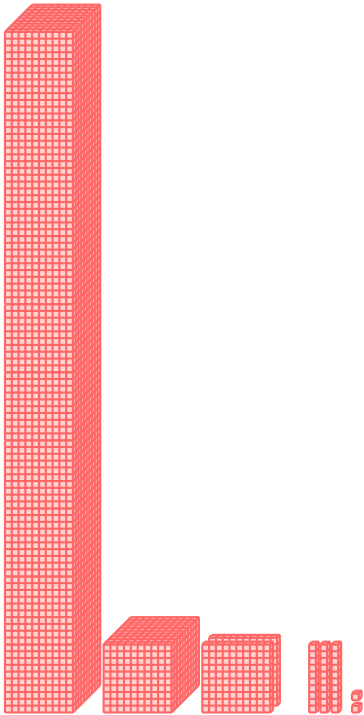


WHOLE NUMBERS

A DEFINITIONS

A.1 COUNTING CUBES IN A TABLE

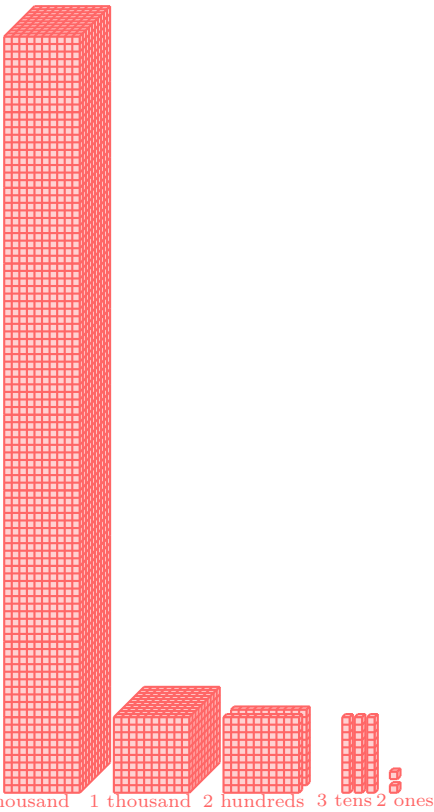
Ex 1:



The number of cubes is

Ten thousands	Thousands	Hundreds	Tens	Ones
1	1	2	3	2

Answer:

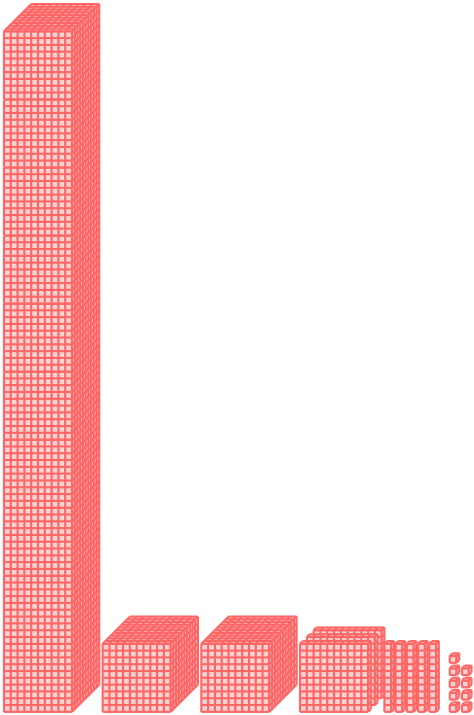


1 ten thousand 1 thousand 2 hundreds 3 tens 2 ones

•

Ten thousands	Thousands	Hundreds	Tens	Ones
1	1	2	3	2

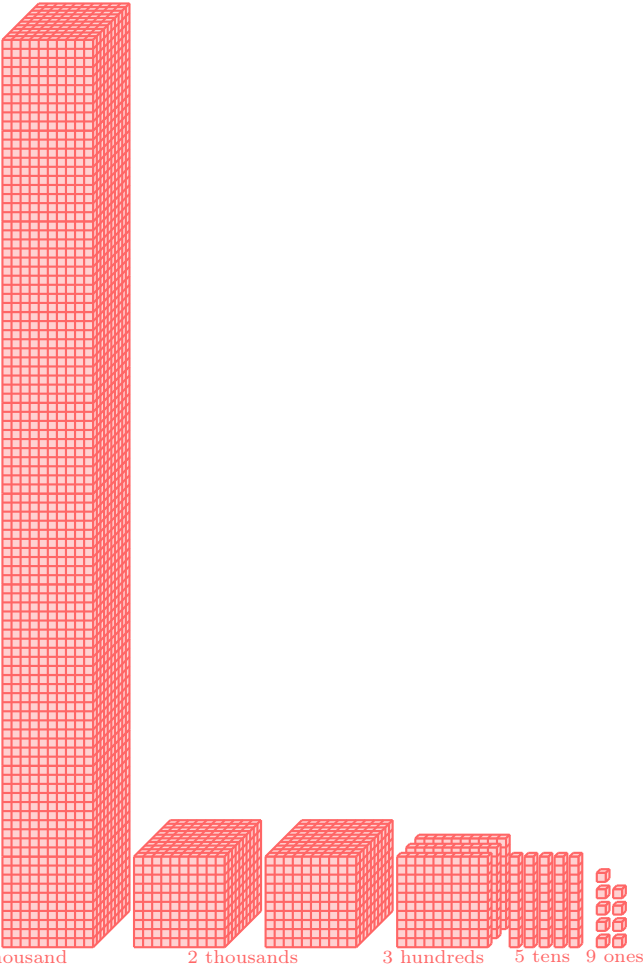
Ex 2:



The number of cubes is

Ten thousands	Thousands	Hundreds	Tens	Ones
0	1	2	3	2

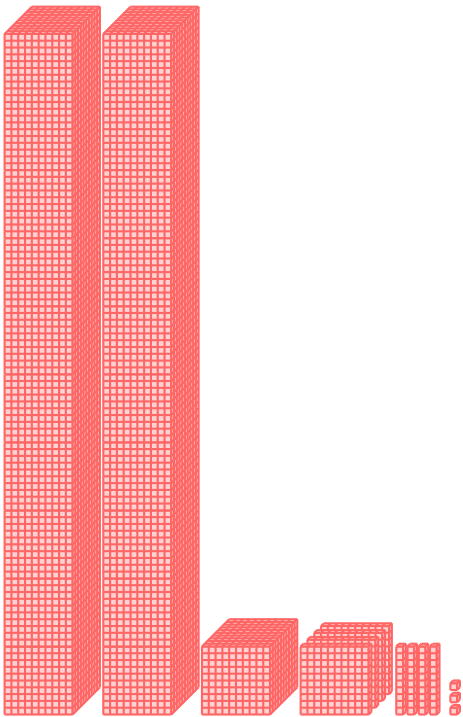
Answer:



1 ten thousand 2 thousands 3 hundreds 5 tens 9 ones

Ten thousands	Thousands	Hundreds	Tens	Ones
1	2	3	5	9

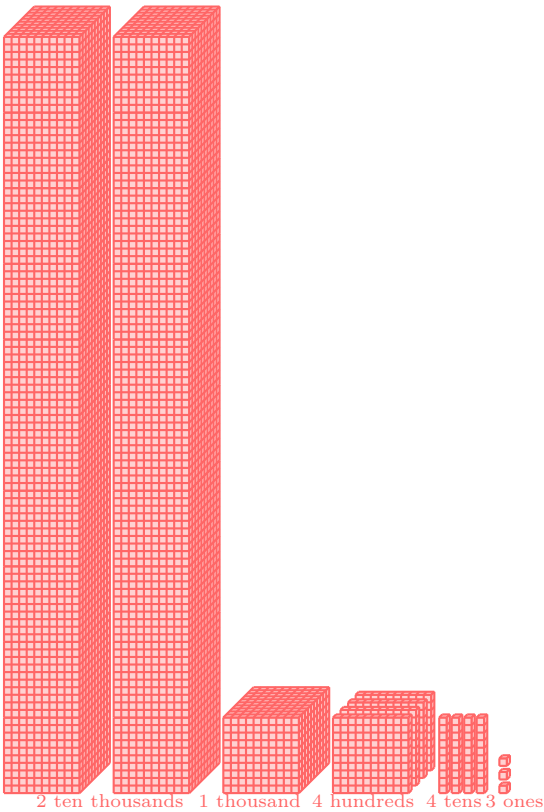
Ex 3:



The number of cubes is

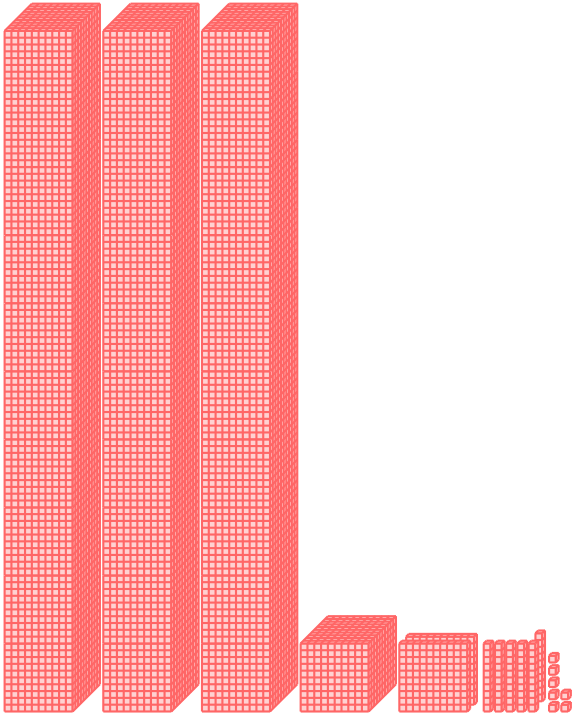
Ten thousands	Thousands	Hundreds	Tens	Ones
2	1	4	4	3

Answer:



Ten thousands	Thousands	Hundreds	Tens	Ones
2	1	4	4	3

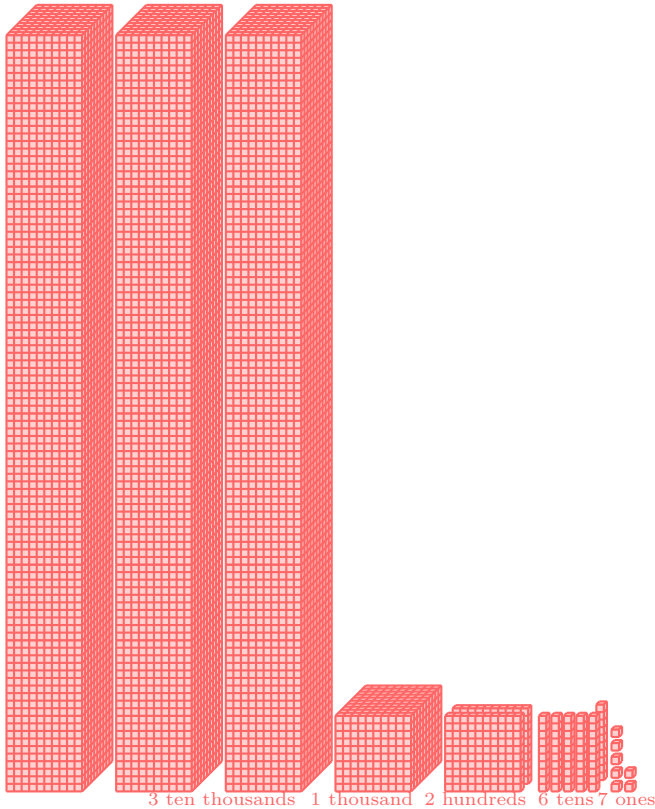
Ex 4:



The number of cubes is

Ten thousands	Thousands	Hundreds	Tens	Ones
3	1	2	6	7

Answer:

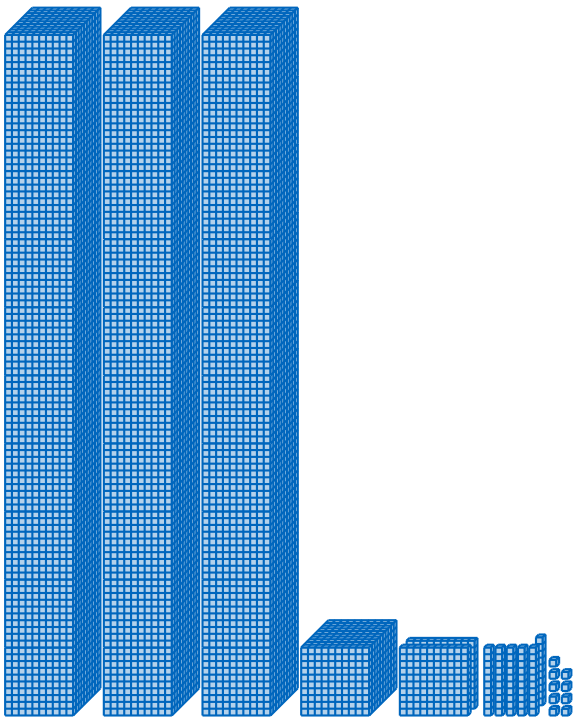


Ten thousands	Thousands	Hundreds	Tens	Ones
3	1	2	6	7

A.2 COUNTING CUBES

Ex 5:



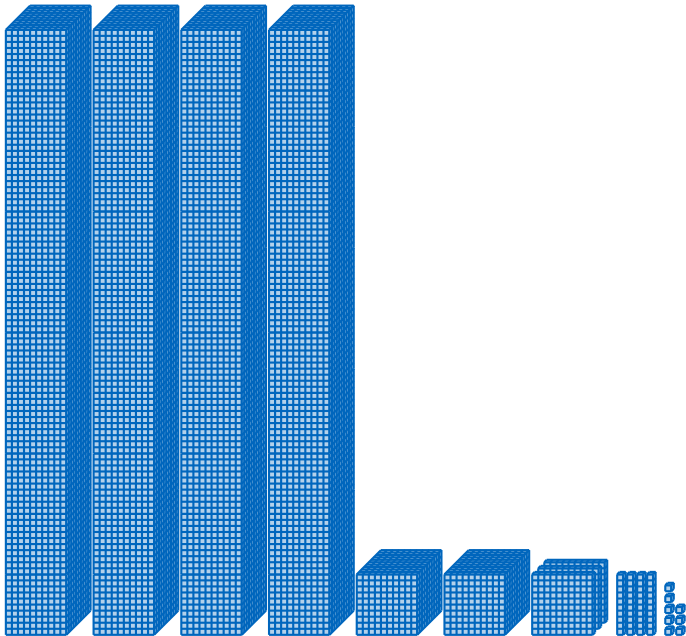


The number of cubes is 31769.

Answer:

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
|---------------|-----------|----------|------|------|
| 3 | 1 | 2 | 6 | 9 |
- The number of cubes is 31 269.

Ex 6:

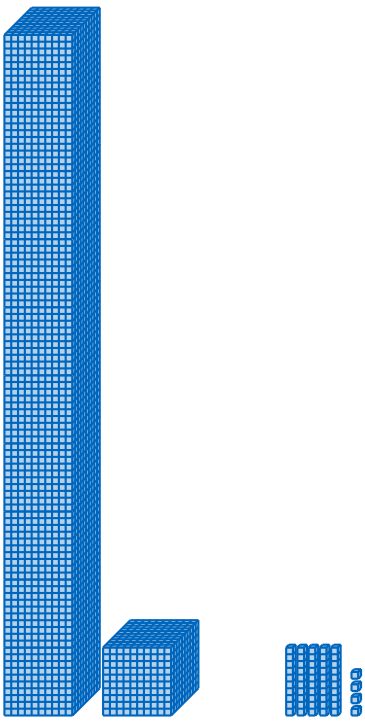


The number of cubes is 42348.

Answer:

- | Ten thousands | Thousands | Hundreds | Tens | Ones |
|---------------|-----------|----------|------|------|
| 4 | 2 | 3 | 4 | 8 |
- The number of cubes is 42 348.

Ex 7:

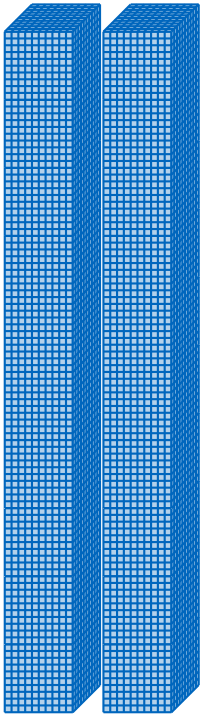


The number of cubes is 11054.

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 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 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.

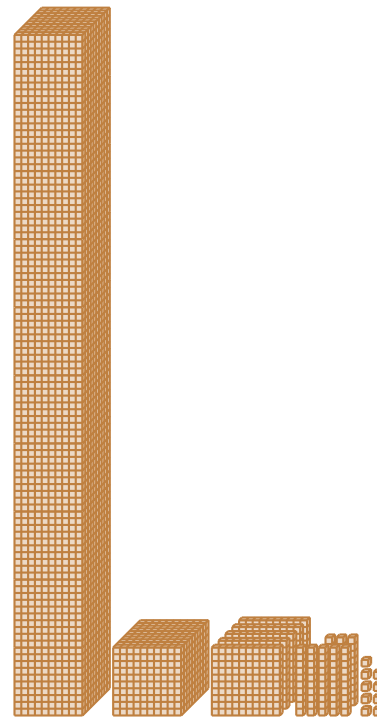
Ex 10:

Ten thousands	Thousands	Hundreds	Tens	Ones
1	1	5	8	9

The number is 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.

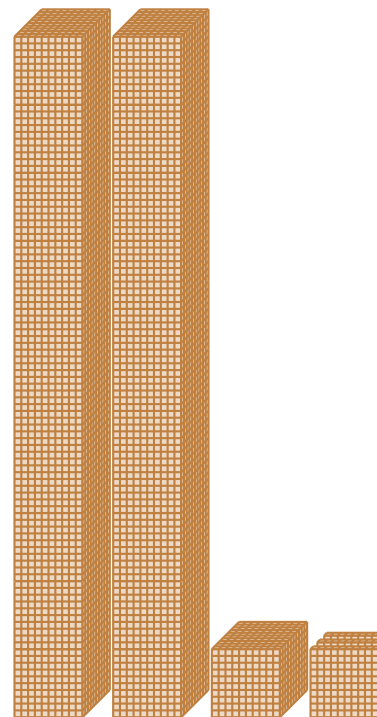
Ex 11:

Ten thousands	Thousands	Hundreds	Tens	Ones
2	1	3	0	0

The number is 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 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 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 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 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 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 = 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 hundreds + 9 tens + 6 ones = 45196

Answer:

Ten thousands	Thousands	Hundreds	Tens	Ones
4	5	1	9	6

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

Ex 19: 6 ten thousands + 1 thousands + 5 hundreds + 2 tens + 9 ones = 61529

Answer:

Ten thousands	Thousands	Hundreds	Tens	Ones
6	1	5	2	9

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

Ex 20: 2 ten thousands + 7 hundreds + 4 tens + 3 ones = 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 = 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 = 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 = 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 = 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: $5 \times 10\,000 + 9 \times 1\,000 + 0 \times 100 + 3 \times 10 + 7 \times 1 = \boxed{59037}$

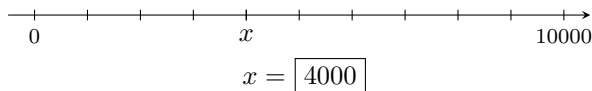
Answer:

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

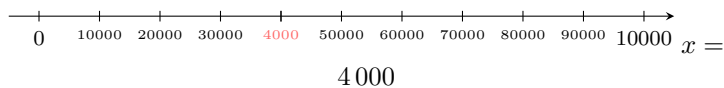
B ON THE NUMBER LINE

B.1 FINDING NUMBERS

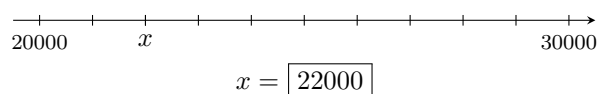
Ex 29:



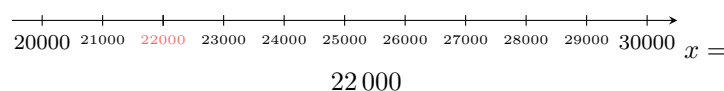
Answer:



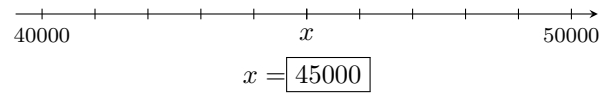
Ex 30:



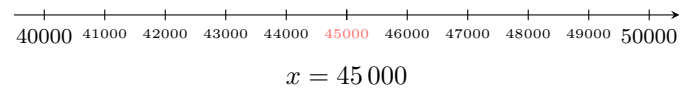
Answer:



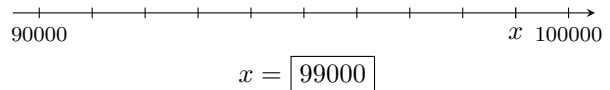
Ex 31:



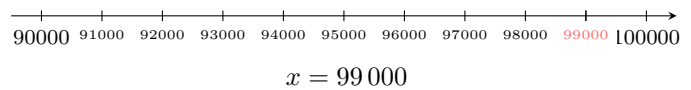
Answer:



Ex 32:



Answer:



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 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 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 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 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
2	1	7	0	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:

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:

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:

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:

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:

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.

