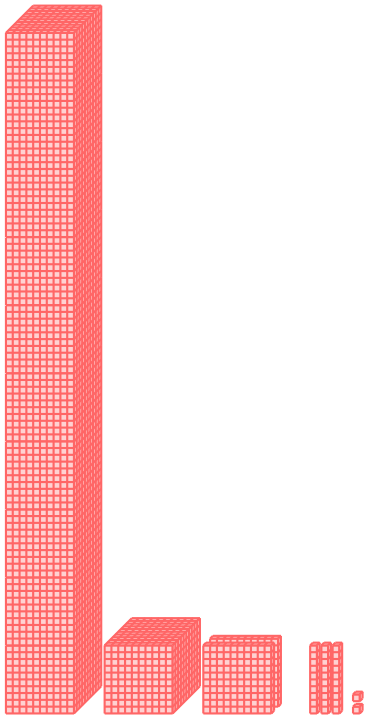
WHOLE NUMBERS

A DEFINITIONS

A.1 COUNTING CUBES IN A TABLE

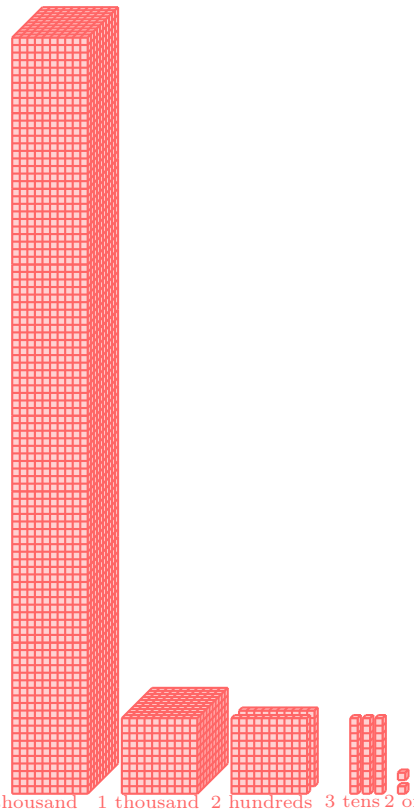
Ex 1:



The number of cubes is

Ten thousands	Thousands	Hundreds	Tens	Ones
1	1	2	3	2

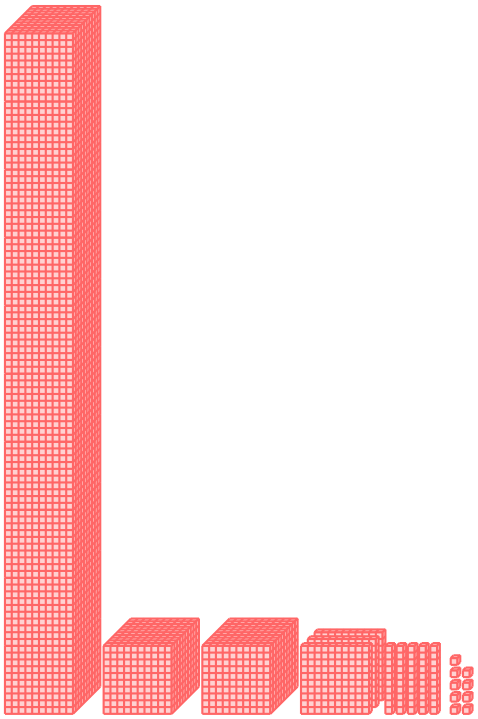
Answer:



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

Ten thousands	Thousands	Hundreds	Tens	Ones
1	1	2	3	2

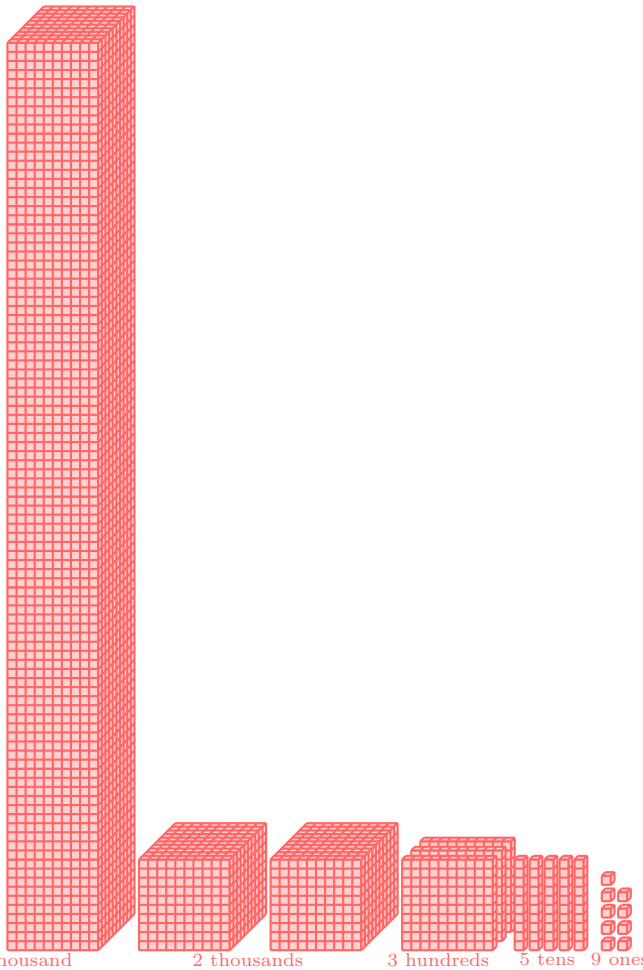
Ex 2:



The number of cubes is

Ten thousands	Thousands	Hundreds	Tens	Ones
0	1	2	3	2

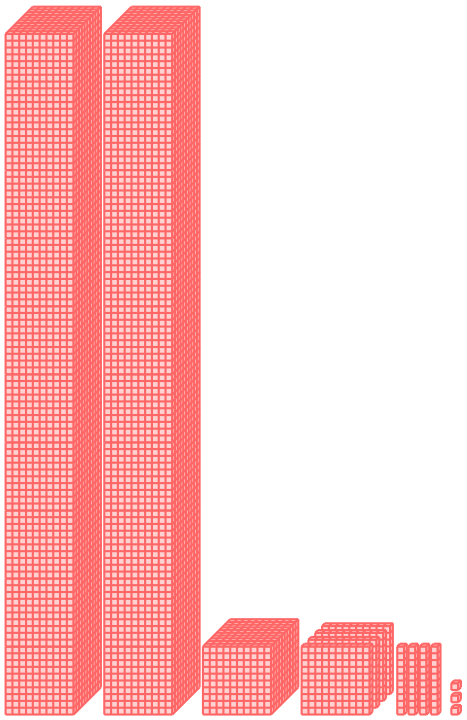
Answer:



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

Ten thousands	Thousands	Hundreds	Tens	Ones
1	2	3	5	9

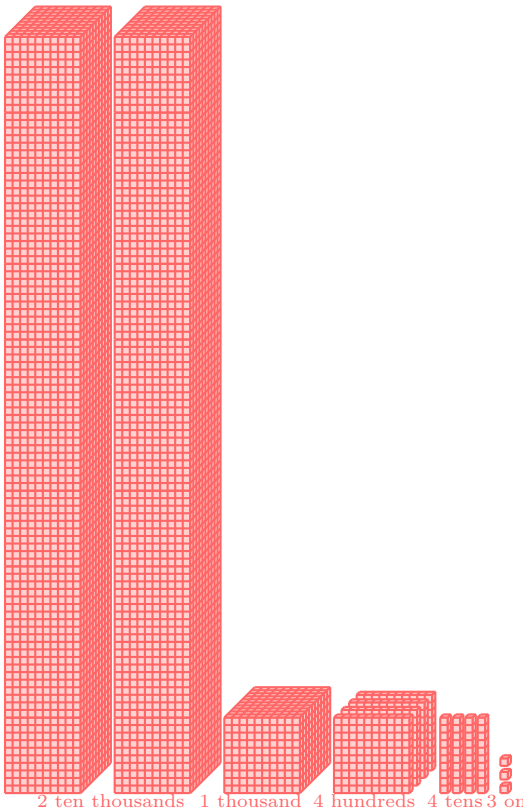
Ex 3:



The number of cubes is

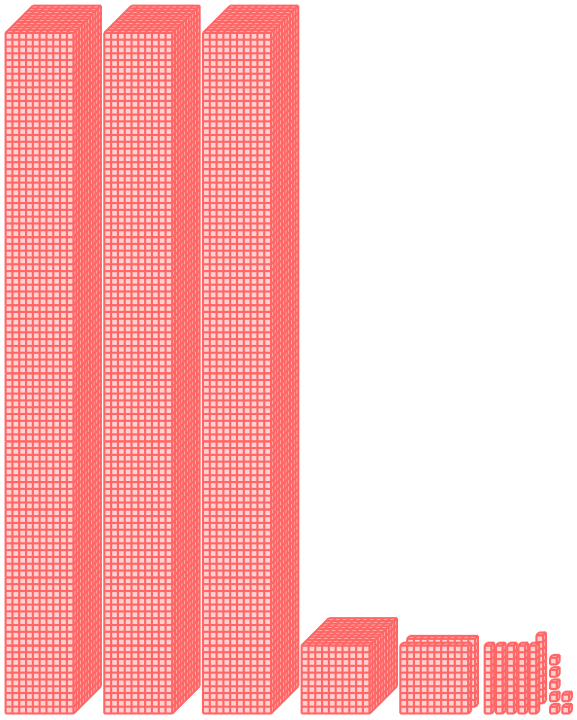
Ten thousands	Thousands	Hundreds	Tens	Ones
2	1	4	4	3

Answer:



Ten thousands	Thousands	Hundreds	Tens	Ones
2	1	4	4	3

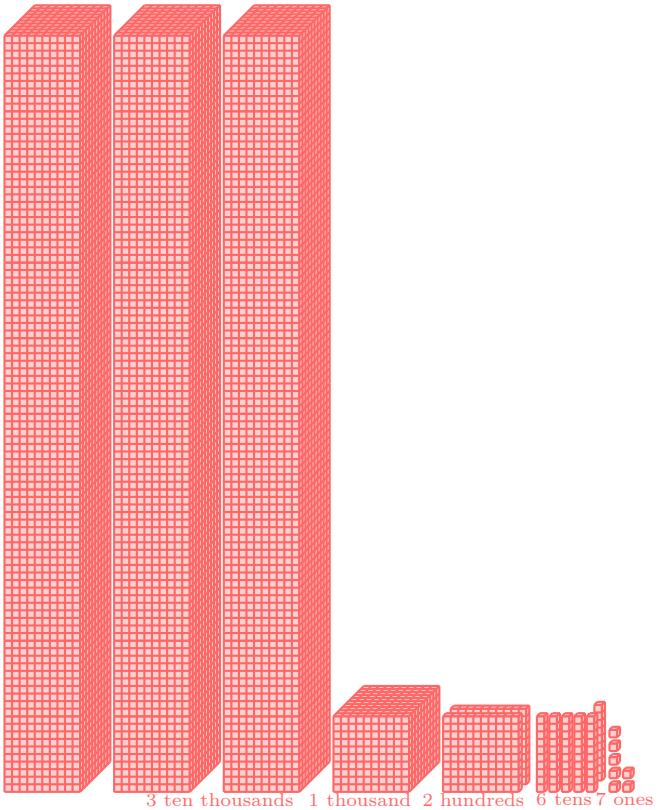
Ex 4:



The number of cubes is

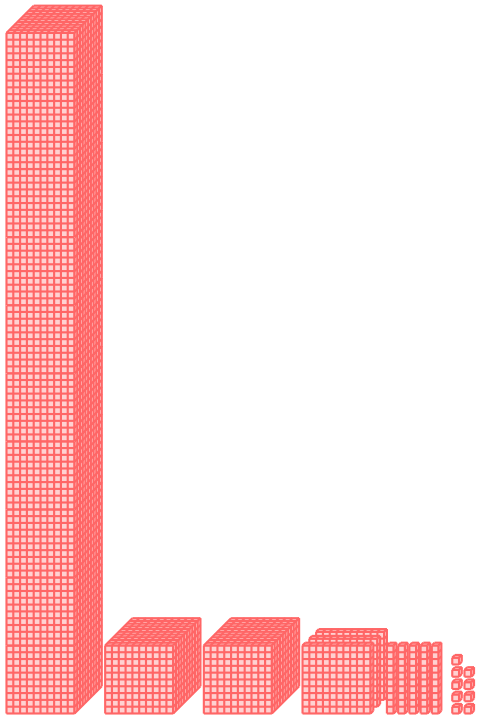
Ten thousands	Thousands	Hundreds	Tens	Ones
3	1	2	6	7

Answer:



Ten thousands	Thousands	Hundreds	Tens	Ones
3	1	2	6	7

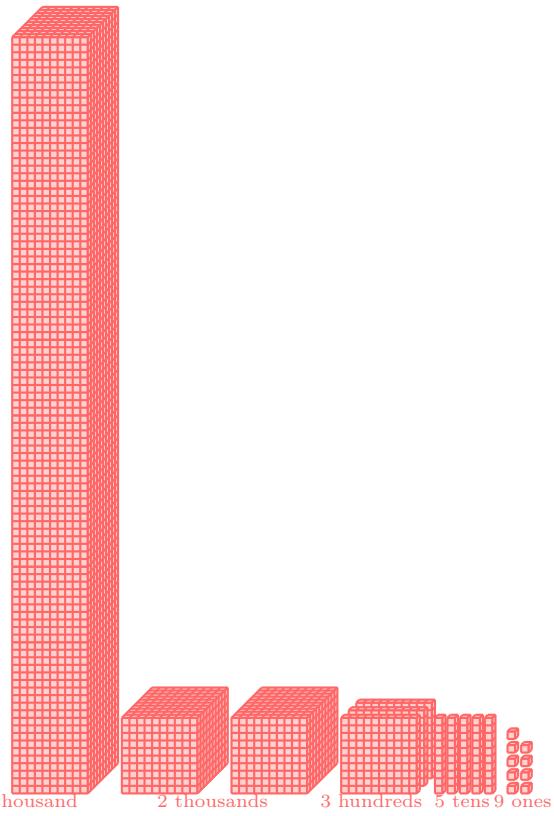
Ex 5:



The number of cubes is

Ten thousands	Thousands	Hundreds	Tens	Ones
0	1	2	3	2

Answer:

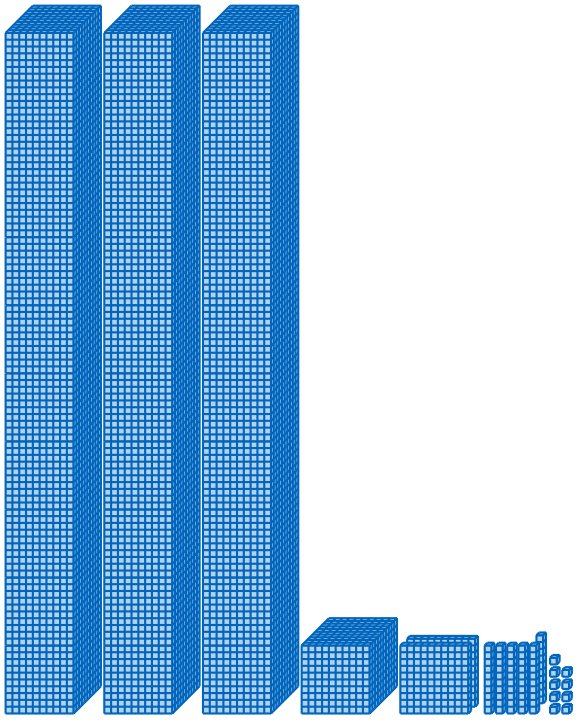


- 1 ten thousand 2 thousands 3 hundreds 5 tens 9 ones
-

Ten thousands	Thousands	Hundreds	Tens	Ones
1	2	3	5	9

A.2 COUNTING CUBES

Ex 6:



The number of cubes is 31769.

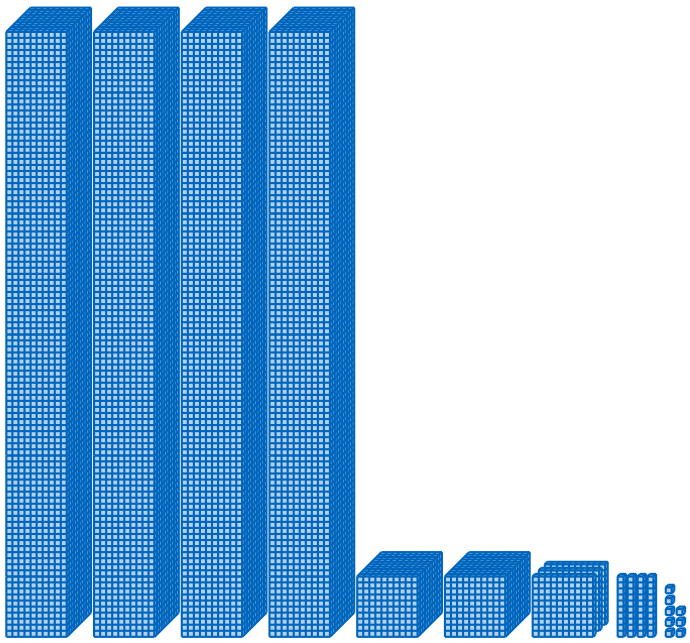
Answer:

-

Ten thousands	Thousands	Hundreds	Tens	Ones
3	1	2	6	9

- The number of cubes is 31 269.

Ex 7:



The number of cubes is 42348.

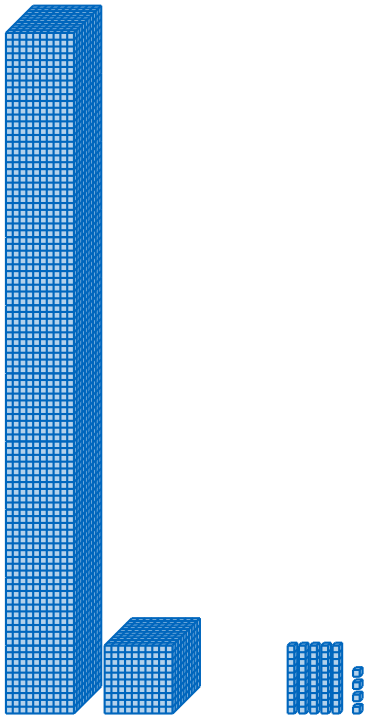
Answer:

-

Ten thousands	Thousands	Hundreds	Tens	Ones
4	2	3	4	8

- The number of cubes is 42 348.

Ex 8:



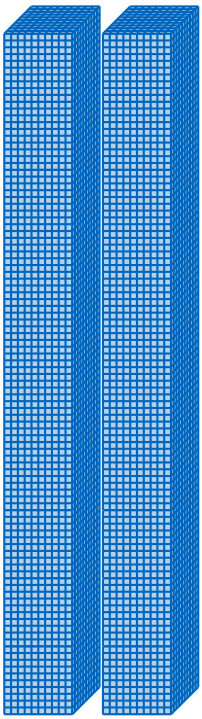
The number of cubes is $\boxed{11054}$.

Answer:

Ten thousands	Thousands	Hundreds	Tens	Ones
1	1	0	5	4

- The number of cubes is 11 054.

Ex 9:



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

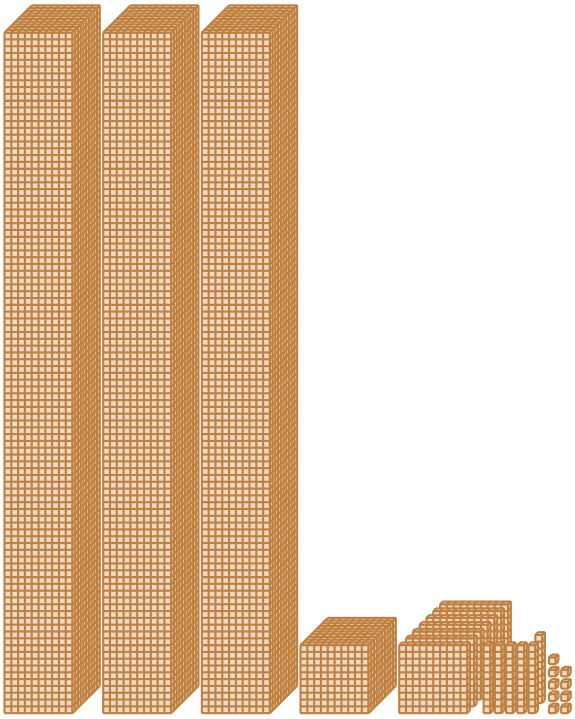
Ex 10:

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.

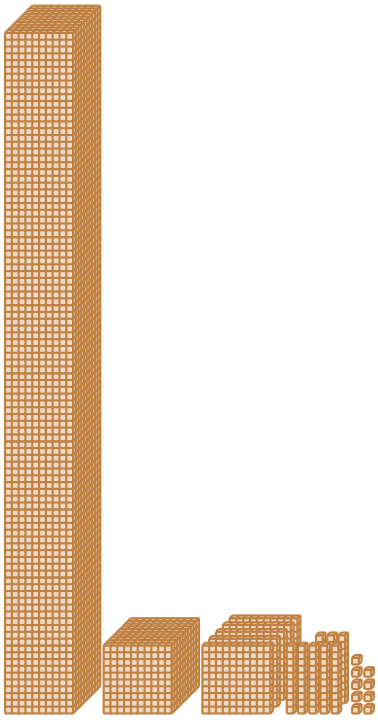
Ex 11:

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.

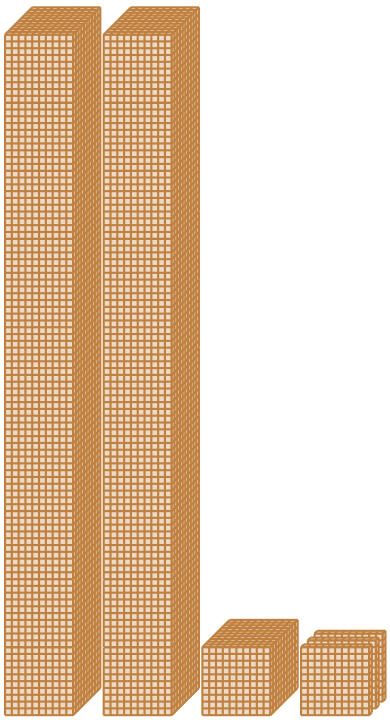
- 
- $10\,000 + 1\,000 + 500 + 80 + 9$
- The number is 11 589.

Ex 12:

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 13: 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 14: 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 15: 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 16: 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 17: 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 18: 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 19: 4 ten thousands + 5 thousands + 1 hundreds + 9 tens + 6 ones = $\boxed{45196}$

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 20: 6 ten thousands + 1 thousands + 5 hundreds + 2 tens + 9 ones = $\boxed{61529}$

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 21: 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 22: $30\,000 + 2\,000 + 300 + 20 + 8 = \boxed{32328}$

Answer:

Ten thousands	Thousands	Hundreds	Tens	Ones
3	2	3	2	8

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

Ex 23: $40\,000 + 5\,000 + 100 + 90 + 6 = \boxed{45196}$

Answer:

Ten thousands	Thousands	Hundreds	Tens	Ones
4	5	1	9	6

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

Ex 24: $20\,000 + 700 + 40 + 3 = \boxed{20743}$

Answer:

Ten thousands	Thousands	Hundreds	Tens	Ones
2	0	7	4	3

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

Ex 25: $60\,000 + 1\,000 + 500 + 20 + 9 = \boxed{61529}$

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 26: $6 \times 10\,000 + 2 \times 1\,000 + 5 \times 100 + 2 \times 10 + 9 \times 1 = \boxed{62529}$

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 27: $4 \times 10\,000 + 3 \times 1\,000 + 7 \times 100 + 1 \times 10 + 6 \times 1 = \boxed{43716}$

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 28: $1 \times 10\,000 + 2 \times 1\,000 + 8 \times 100 + 5 \times 10 + 0 \times 1 = \boxed{12850}$

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 29: $5 \times 10\,000 + 9 \times 1\,000 + 0 \times 100 + 3 \times 10 + 7 \times 1 = \boxed{59037}$

Answer:

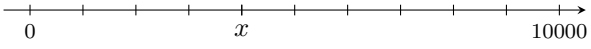
Ten thousands	Thousands	Hundreds	Tens	Ones
5	9	0	3	7

- $5 \times 10\,000 + 9 \times 1\,000 + 0 \times 100 + 3 \times 10 + 7 \times 1 = 59\,037$

B ON THE NUMBER LINE

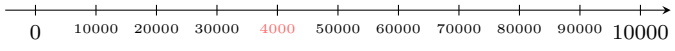
B.1 FINDING NUMBERS

Ex 30:



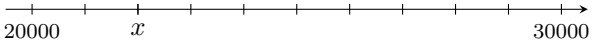
$x = \boxed{4000}$

Answer:



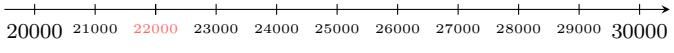
$x =$ 4 000

Ex 31:



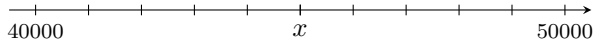
$x = \boxed{22000}$

Answer:



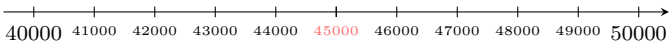
$x =$ 22 000

Ex 32:



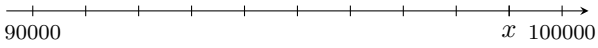
$x =$ 45000

Answer:



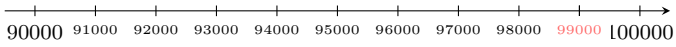
$x = 45\,000$

Ex 33:



$x =$ 99000

Answer:



$x = 99\,000$

C BIG NUMBERS

C.1 COUNTING FROM A TABLE

Ex 34:

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 1250000.

Answer: The number is 1 250 000.

Ex 35:

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 12000000.

Answer: The number is 12 000 000.

Ex 36:

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 135000000.

Answer: The number is 135 000 000.

Ex 37:

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 340120000000.

Answer: The number is 340 120 000 000.

C.2 WRITING NUMBERS FROM WORDS

Ex 38: 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	1	2	5	0	0	0	0	0

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

Ex 39: 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 40: 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 41: 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 42: 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 43: 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 44: 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 45: 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 46: 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.