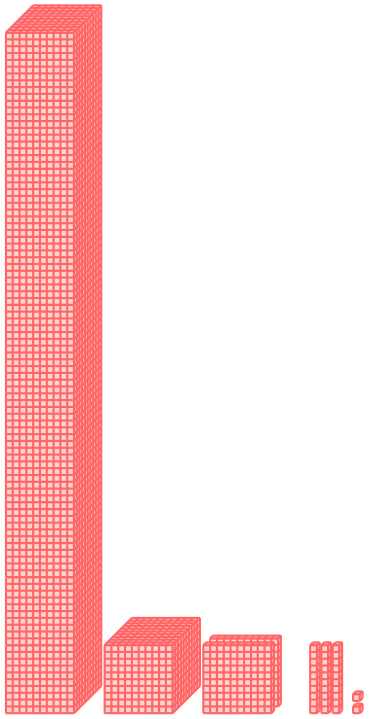
A BUILDING NUMBERS

A.1 COUNTING CUBES IN A TABLE

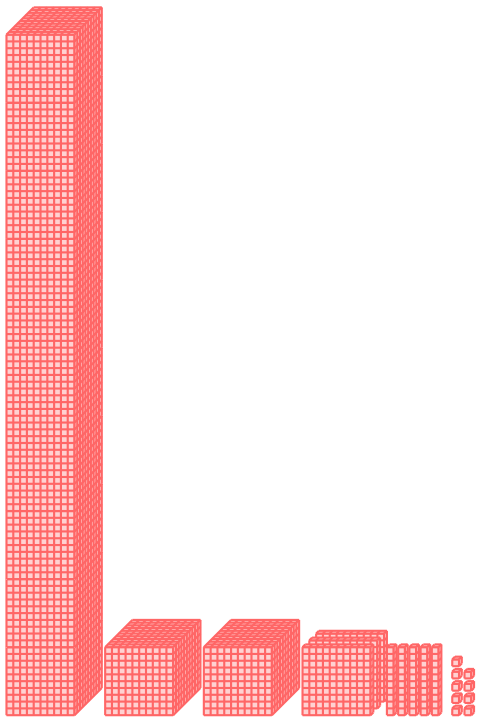
Ex 1:



The number of cubes is

Ten thousands	Thousands	Hundreds	Tens	Ones

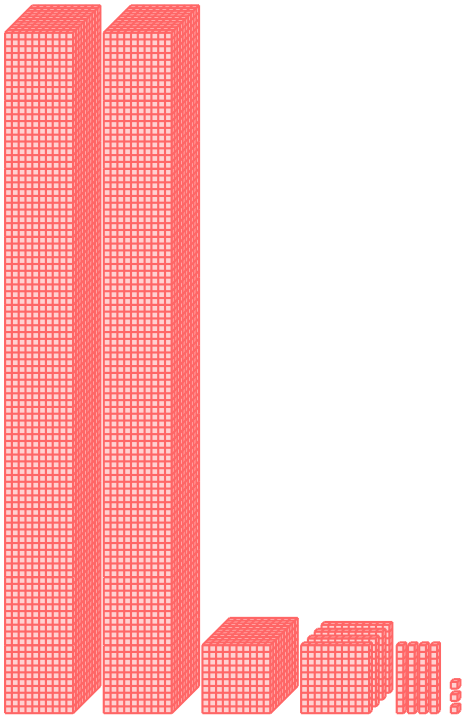
Ex 2:



The number of cubes is

Ten thousands	Thousands	Hundreds	Tens	Ones

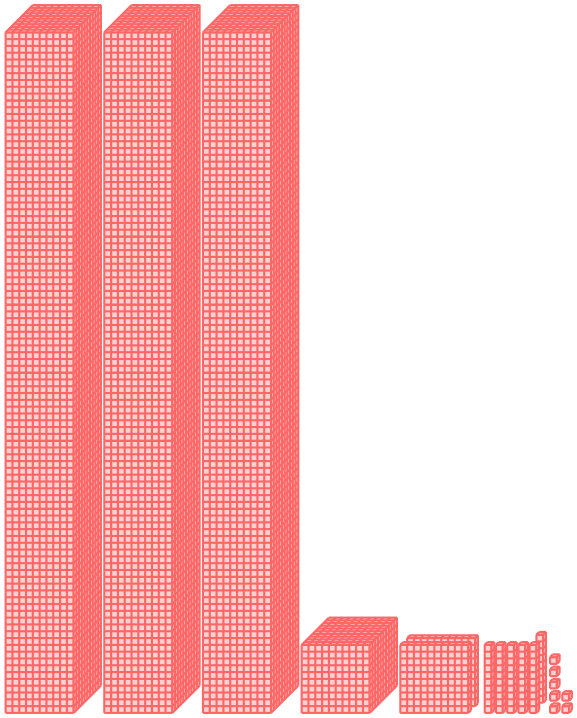
Ex 3:



The number of cubes is

Ten thousands	Thousands	Hundreds	Tens	Ones

Ex 4:

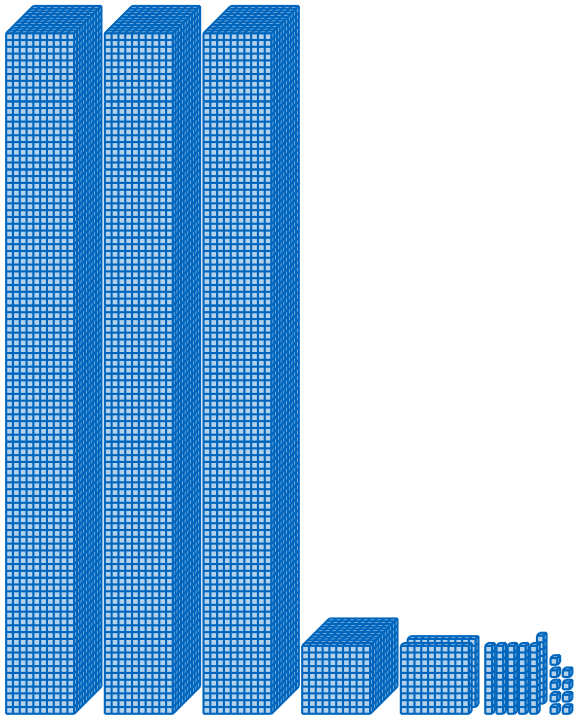


The number of cubes is

Ten thousands	Thousands	Hundreds	Tens	Ones

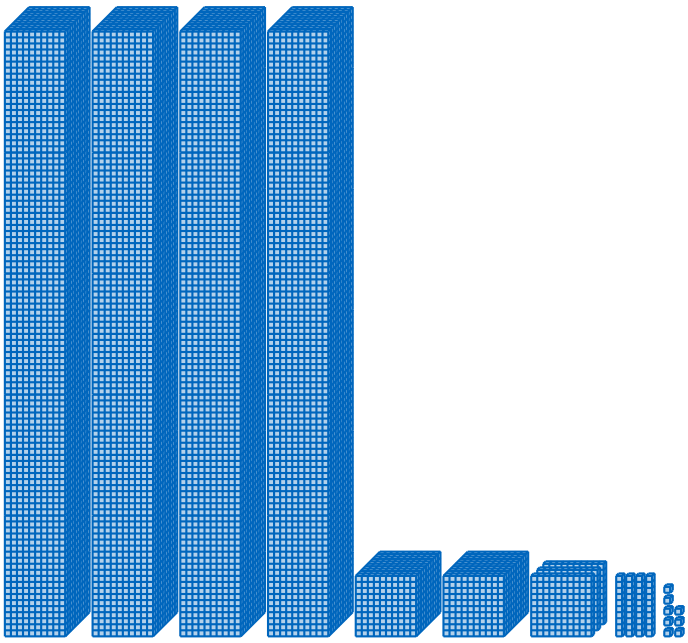
A.2 COUNTING CUBES

Ex 5:



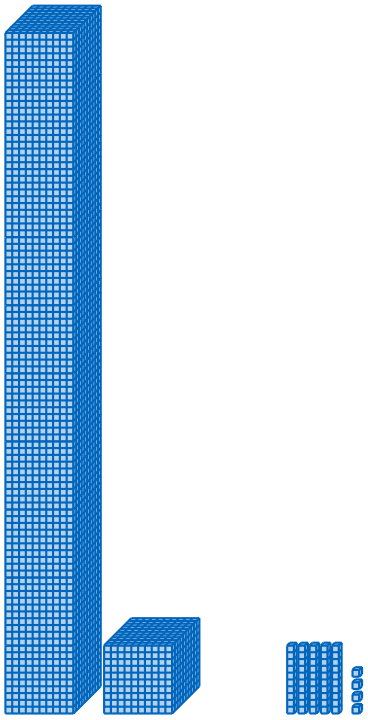
The number of cubes is ☐.

Ex 6:



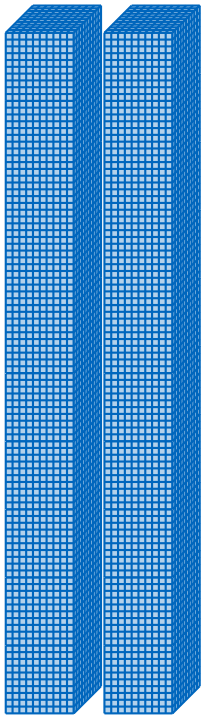
The number of cubes is ☐.

Ex 7:



The number of cubes is ☐.

Ex 8:



The number of cubes is ☐.

A.3 COUNTING CUBES FROM A TABLE

Ex 9:

Ten thousands	Thousands	Hundreds	Tens	Ones
3	1	7	6	9

The number is ☐.

Ex 10:

Ten thousands	Thousands	Hundreds	Tens	Ones
1	1	5	8	9

The number is ☐.

Ex 11:

Ten thousands	Thousands	Hundreds	Tens	Ones
2	1	3	0	0

The number is ☐.

A.4 FINDING THE DIGIT

Ex 12: The digit in the hundreds place of 24 325 is ☐.

Ex 13: The digit in the ten thousands place of 41 092 is ☐.

Ex 14: The digit in the ones place of 4 109 is ☐.

Ex 15: The digit in the tens place of 31 267 is ☐.

Ex 16: The digit in the thousands place of 21 443 is ☐.

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 = ☐

Ex 18: 4 ten thousands + 5 thousands + 1 hundred + 9 tens + 6 ones = ☐

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

Ex 20: 2 ten thousands + 7 hundreds + 4 tens + 3 ones = ☐

A.6 WRITING NUMBERS FROM EXPANDED FORM

Ex 21: $30\,000 + 2\,000 + 300 + 20 + 8 =$ ☐

Ex 22: $40\,000 + 5\,000 + 100 + 90 + 6 =$ ☐

Ex 23: $20\,000 + 700 + 40 + 3 =$ ☐

Ex 24: $60\,000 + 1\,000 + 500 + 20 + 9 =$ ☐

A.7 WRITING NUMBERS FROM EXPANDED FORM

Ex 25: $6 \times 10\,000 + 2 \times 1\,000 + 5 \times 100 + 2 \times 10 + 9 \times 1 =$ ☐

Ex 26: $4 \times 10\,000 + 3 \times 1\,000 + 7 \times 100 + 1 \times 10 + 6 \times 1 =$ ☐

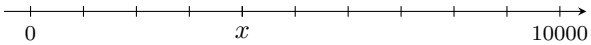
Ex 27: $1 \times 10\,000 + 2 \times 1\,000 + 8 \times 100 + 5 \times 10 + 0 \times 1 =$ ☐

Ex 28: $5 \times 10\,000 + 9 \times 1\,000 + 0 \times 100 + 3 \times 10 + 7 \times 1 =$ ☐

B ON THE NUMBER LINE

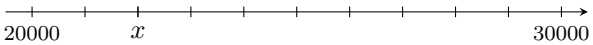
B.1 FINDING NUMBERS

Ex 29:



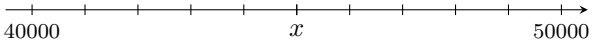
$x =$ ☐

Ex 30:



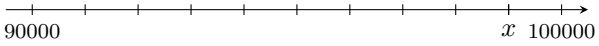
$x =$ ☐

Ex 31:



$x =$ ☐

Ex 32:



$x =$ ☐

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 ☐.

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 ☐.

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 ☐.

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 ☐.

C.2 WRITING NUMBERS FROM WORDS

Ex 37: One million two hundred fifty thousand is ☐.

Ex 38: Twenty-five million four hundred thousand is ☐.

Ex 39: One hundred ninety million is ☐.

Ex 40: Twenty-one billion seven hundred million is ☐.

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:

☐ years ago

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

☐ people

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

☐ 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:

☐ kilometers

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

☐ heartbeats

D COMPARING NUMBERS

D.1 COMPARING NUMBERS

Ex 46: Compare:

$$352 \ \square \ 289$$

Ex 47: Compare:

$$461 \ \square \ 438$$

Ex 48: Compare:

$$989 \ \square \ 1\,023$$

Ex 49: Compare:

$$8\,456 \ \square \ 8\,459$$

Ex 50: Compare:

$$5\,109 \ \square \ 5\,091$$

Ex 51: Compare:

$$23\,456 \ \square \ 23\,198$$

E BOUNDING A NUMBER

E.1 BOUNDING BY PLACE VALUE

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

☐ $\leq 482 <$ ☐

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

☐ $\leq 7\,291 <$ ☐

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

☐ $\leq 5\,814 <$ ☐

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

☐ $\leq 45\,678 <$ ☐

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

☐ $\leq 2\,956 <$ ☐

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

☐ $\leq 8\,041 <$ ☐

F ROUNDING NUMBERS

F.1 ROUNDING TO THE NEAREST TEN

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

$263 \approx$ ☐

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

$389 \approx$ ☐

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

$2\,342 \approx$ ☐

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

$6\,779 \approx$ ☐

F.2 ROUNDING TO THE NEAREST HUNDRED

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

$365 \approx$ ☐

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

$2\,032 \approx$ ☐

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

$35\,695 \approx$ ☐

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

$40\,239 \approx$ ☐

F.3 ROUNDING TO THE NEAREST THOUSAND

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

$23\,100 \approx$ ☐

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

$67\,645 \approx$ ☐

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

$9\,200 \approx$ ☐

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

$9\,999 \approx$ ☐