Unit 1 Millions and billions

Exercise 1 Counting up to millions

1. Count in 10s, 100s, 1 000s, 10 000s and 100 000s and fill in the missing numbers.

10s	100s	1 000s	10 000s	100 000s
90		3 100		821 999
	800	4 100	22 000	721 999
	900		32 000	
120		6 100		
	1 100		52 000	

2. Study each pattern and fill in the missing numbers.

a) 81, 91, _____, 111, 121, 131, _____, _____, 161, _____

b) 475, 480, 485, _____, 495, _____, 505, 510, _____, _____

c) 7 127, 6 127, _____, _____, _____, 2 127, 1 127

d) 83 100, 84 100, _____, 86 100, 87 100, _____

e) 991 250, 891 250, 791 250, _____, _____

f) 3 450 000, 3 550 000, _____, 3 750 000, _____, 3 950 000, _____

g) 54 million, _____, 74 million, _____

h) 31 342 781 972, 21 342 781 972, _____

Exercise 2 Counting and reading numbers

1. In the table, numbers are given in digits and in words. Fill in the missing words.

	Digits	Words
a)	750	_____ hundred and _____
b)	2 891	two _____, eight hundred and _____
c)	72 111	seventy-two thousand, one _____ and _____
d)	89 000 000	eighty-nine _____
e)	5 000 000 027	five _____ and _____
f)	78 825 704 312	_____ billion, _____ hundred and _____, seven hundred and four _____, _____

2. Write each number in digits.

a) seven thousand, six hundred and forty-five

_____

b) twelve billion, six hundred and fifteen million, seven hundred and seven thousand, five hundred and fifty-five _____

c) three billion, thirty-seven million, four hundred and seven thousand and seventeen _____

d) forty-one billion, three hundred and eighty-one thousand, three hundred and two _____

Exercise 3 Problem-solving

1. Fill in the number that makes each calculation correct.

a) 42 000 + 38 000 = _____

b) _____ + 725 250 = 1 000 000

c) 84 500 000 + _____ = 100 000 000

d) 123 million + 80 million = _____

e) $3\frac{1}{2}$ billion + _____ billion = 10 billion

2. Adafor saved ₦800 per month for one year. How much money did she save in that year?

_____

3. How many bags of potatoes, that cost ₦350 each, can you buy for ₦35 000?

_____ bags

4. Order the numbers from smallest to largest.

a) 4 512, 4 612, 4 112, 4 712, 4 212, 4 912

_____

b) 6 919, 5 780, 2 493, 3 921, 3 450

_____

5. Order the numbers from largest to smallest.
19 721 537, 19 721 531, 19 721 535, 19 721 539

_____

_____

Unit 2 Place value

Exercise 4 Place value (whole numbers)

1. Write each number in the correct spaces in the place value table. (Remember, H is for hundreds, T is for tens and U is for units.)

a) 792

b) 14 792

c) 381 792

d) 14 673 925

e) 291 083 565

f) 14 892 500 003

	Billions			Millions			Thousands			Units		
	H	T	U	H	T	U	H	T	U	H	T	U
a)												
b)												
c)												
d)												
e)												
f)												

2. Give the value of 14 in each number in words. (You can refer to the above place value table.)

Example: The value of the 5 in 500 003 is 500 thousand.

a) 14 792 _____

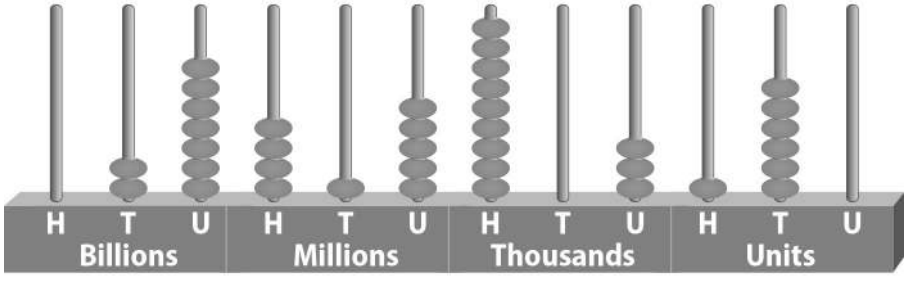
b) 14 673 925 _____

c) 14 892 500 003 _____

3. Give the value of 9 in 14 673 925. _____

Exercise 5 Place value (abacus)

1. Give the number on the abacus in digits and in words.

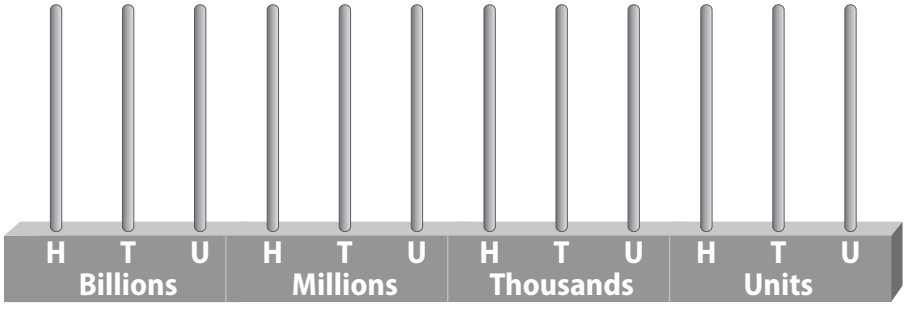


Digits: _____

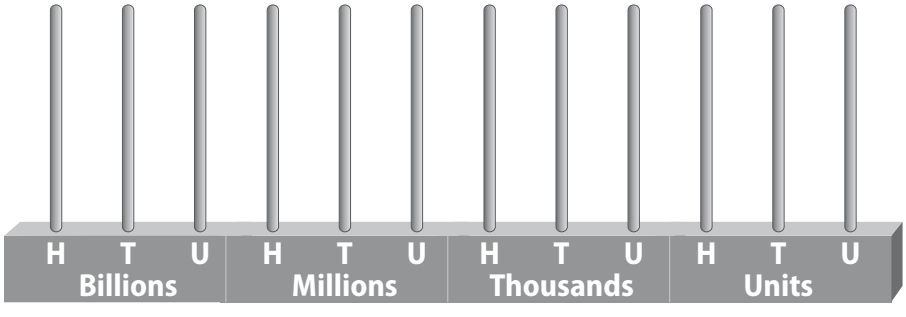
Words: _____

2. Draw beads to show the numbers on the abacuses.

a) 3 000 421 809



b) 611 824 915 436



Exercise 6 Place value (decimal numbers)

1. Write the digits for each number in the correct place in the table.

a) 81.9 **b)** 6 751.23

c) 10 452 038.007 **d)** 9 001 007.895

	Millions			Thousands			Units			.	Decimal fraction		
	H	T	U	H	T	U	H	T	U		t	h	th
a)										.			
b)										.			
c)										.			
d)										.			

2. Write each number as a decimal fraction.

a) $\frac{56}{100}$ _____ **b)** $\frac{481}{1\,000}$ _____

c) $\frac{925}{10}$ _____ **d)** $\frac{8\,250}{100}$ _____

e) $\frac{14}{100}$ _____ **f)** $\frac{9\,070}{1\,000}$ _____

3. Arrange the six decimal fractions in question 2 in ascending order.

_____

4. Circle the correct word(s) in brackets.

It is (easier/more difficult) to arrange decimal fractions in ascending order than to arrange fractions in ascending order.

Exercise 7 Problem-solving with place value

1. Write each number in standard form.

a) $100 + 60 + 5 + \frac{4}{10} + \frac{2}{100} + \frac{7}{1\,000} =$ _____

b) $5\,000 + 400 + 10 + 3 + \frac{2}{10} + \frac{6}{100} =$ _____

c) $70\,000 + 400 + 60 + 1 + \frac{3}{10} + \frac{2}{100} =$ _____

d) $9\,000 + 200 + 80 + 6 + \frac{4}{100} + \frac{5}{1\,000} =$ _____

2. Arrange the numbers in question 1 in descending order.

_____

3. Write each number in expanded form.

a) 104.775 = _____

b) 1 020.02 = _____

c) 78 009.104 = _____

d) 43 619.782 = _____

4. The two numbers in each pair contain the same digits. Which number is larger?

a) 101 111.912 or 111 101.912 _____

b) 493 217.021 or 493 217.012 _____

5. Which fraction is larger? First convert both fractions in each pair to decimal numbers.

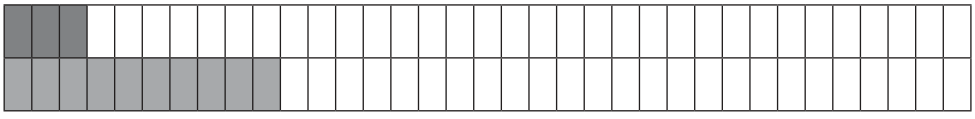
a) $\frac{46}{10}$ or $\frac{46}{100}$ _____

b) $\frac{725}{100}$ or $\frac{35}{5}$ _____

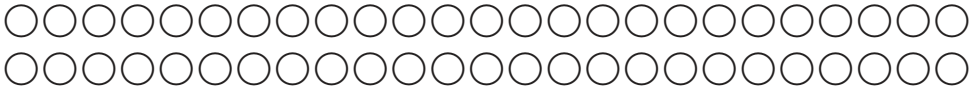
Unit 3 LCM and HCF

Exercise 8 Lowest common multiple (LCM)

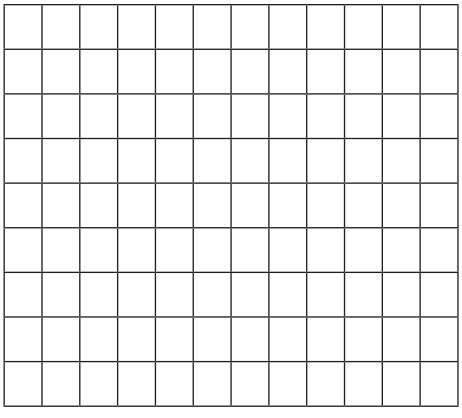
1. Use the diagram to find the LCM of 3 and 10. Colour in multiples of 3 in the top row (the first group of 3 has been shaded). Colour in multiples of 10 in the second row (the first group of 10 has been shaded). The LCM is the place where a group of 3s and a group of 10s align.

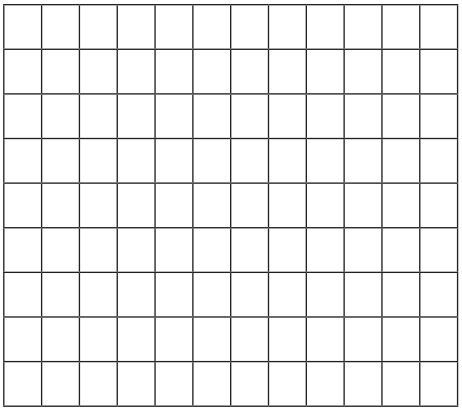


2. Use the circles to find the LCM of 4 and 5. Colour groups of 4 circles one colour in the first row and groups of 5 circles a different colour in the second row. When you have coloured in the same number of circles in both rows, you have found the LCM.



3. Each table has 108 blocks. Colour in groups of 27 in the first block and groups of 36 in the second block to show that 108 is the LCM of 27 and 36.





Exercise 9 LCM (2)

1. Use prime factors to find the LCM of 15 and 20.

Factors of 15: _____ Prime factors: _____

Factors of 20: _____ Prime factors: _____

LCM of 15 and 20: _____

2. Use multiples to find the LCM of 18, 24 and 36.

Multiples of 18: _____

Multiples of 24: _____

Multiples of 36: _____

LCM of 18, 24 and 36: _____

3. Use the table method to help you find the LCM of the numbers. Fill in the missing information.

a)

2	75	80	90
2	75		45
2	75		45

LCM of 75, 80 and 90: _____

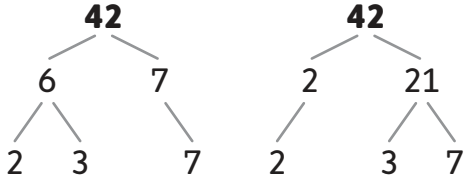
b)

	48	72	108

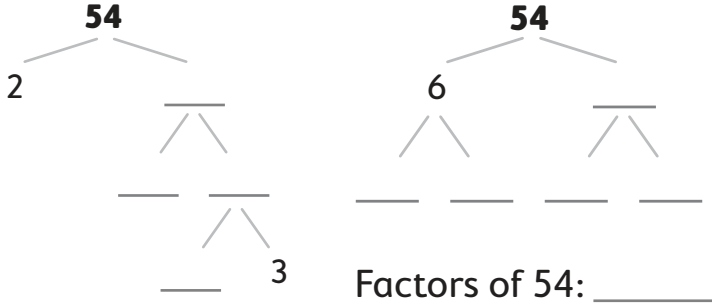
LCM of 48, 72 and 108: _____

Exercise 10 Factor trees

1. Are these factor trees for 42 both correct? Explain.

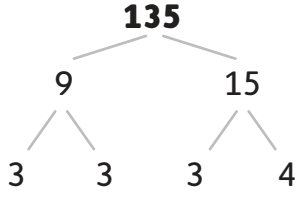


2. Complete the two factor trees for 54.

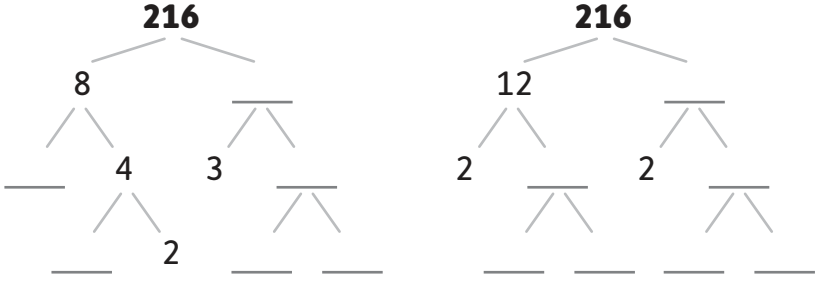


Factors of 54: _____

3. Correct the mistake in the factor tree.



4. Complete the two factor trees for 216.



Factors of 216: _____