

Numbers, operations & relationships

a) Complete the following number lines by filling in the correct numbers:

678 681 684 687 691 693 696 699 702 705 708.

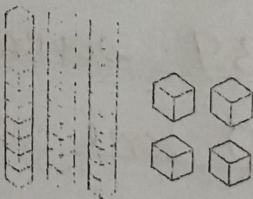
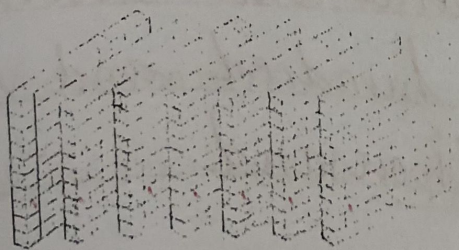
594 596 598 600 602 604 606 608 610 612 614.

625 650 675 700 725 750 775 800 825 850 875

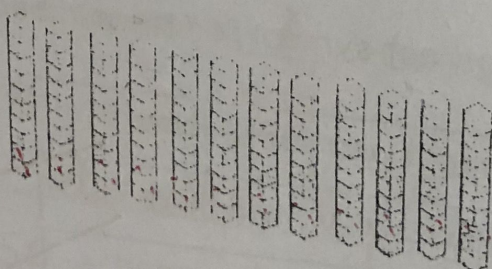
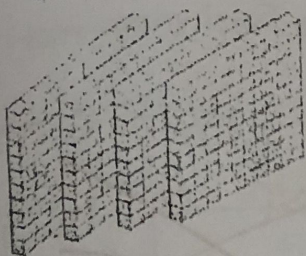
1100 1000 900 800 700 600 500 400 300 200 100

600 550 500 450 400 350 300 250 200 150 100.

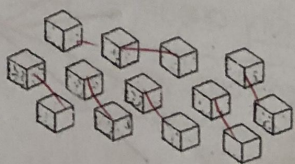
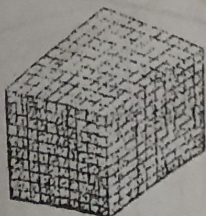
b) Look at the Dienes blocks and write down the value of each.



734



4520



100103

1.2 Number names and symbols

a) Complete the table by filling in the correct number names or symbols.

	five hundred and ninety eight
670	six hundred and seventy
709	seven hundred and nine
825	eight hundred and twenty five
837	eight hundred and thirty seven
946	nine hundred and forty six
1004	one thousand and four
1130	one thousand one hundred and thirty

b) Write the answers in words.

- $900 - 45 = 855$ eight hundred and fifty five.
- $8H + 7T + 3units = 873$ eight hundred and seventy three.
- $1000 + (4 \times 6) = 1024$ one thousand and twenty four.
- $800 + 117 = 917$ nine hundred and seventeen.
- $700 + 20 + 19 = 739$ seven hundred and thirty nine.
- $800 + 200 = 1000$ one thousand.

c) Choose the correct symbol for the number name:

<table border="1"> <tr><td>nine hundred and fifty three</td></tr> <tr><td>nine hundred and thirty five</td></tr> <tr><td>one thousand and sixty one</td></tr> <tr><td>one thousand and sixteen</td></tr> <tr><td>nine hundred and ninety six</td></tr> </table>	nine hundred and fifty three	nine hundred and thirty five	one thousand and sixty one	one thousand and sixteen	nine hundred and ninety six	<table border="1"> <tr><td>996</td></tr> <tr><td>1016</td></tr> <tr><td>953</td></tr> <tr><td>1061</td></tr> <tr><td>935</td></tr> </table>	996	1016	953	1061	935
nine hundred and fifty three											
nine hundred and thirty five											
one thousand and sixty one											
one thousand and sixteen											
nine hundred and ninety six											
996											
1016											
953											
1061											
935											

1.3 Number chart (900-1000)

a) Complete the number chart.

901				905				909	910
		913	914						920
				925		927			
931	932							938	
		943			946			949	
951									960
			964			967			
	972			975					980
		983				987		988	
			994		996				999

b) Use the completed numbers chart and answer the questions that follow.

i) Which number represents the ? 967. How many tens? 96.

ii) What is the difference between and ? $946 - 905 = 41$.

iii) 15 more than 968 = 983. 15 less than 968 = 953.

iv) How many is more than 987? 7. How many less than 1000? 13.

v) True or false: The is an odd number. 925 yes. Explain your answer:

It is not divisible by 2.

vi) Complete: $916 + \underline{50} = 966$ $\underline{67} + 33 = 1000$ $996 + 100 = \underline{1096}$.

vii) minus equals $960 - 931 = 29$.

viii) + 6 = 916 + 18 = 934 - 1 = 933 + 55 = 988 + 150 = 1138.

Arrange the following numbers

~~165~~ ~~985~~ ~~568~~ ~~958~~ ~~773~~ ~~737~~ ~~651~~ ~~156~~

985 958 773 737 651 568 165 156

a) Classify the top numbers into odd and even numbers.

ODD NUMBERS:

165; 985; 773; 737;
651

EVEN NUMBERS:

568; 958; 156

b) Subtract the smallest number from the largest number.

OPERATION:

$$\begin{array}{r} 985 \\ - 156 \\ \hline 829 \end{array}$$

c) Describe the term "ascending order" in your own words. Arrange

the numbers from the smallest to the biggest.

1.5 Fill in: < = >

864
 $800 + 4 + 60$

>

846

24
 4×6

=

24
 3×8

850
 $1000 - 150$

>

750
 $500 + 250$

100
 $25 + 75$

<

101
 $151 - 50$

909

<

919
 $900 + 10 + 9$

15
 $9 + (2 \times 3)$

<

16
 $8 + (2 \times 4)$

$24 \div 4$ = 6
 2×3

144
 12×12 > 132

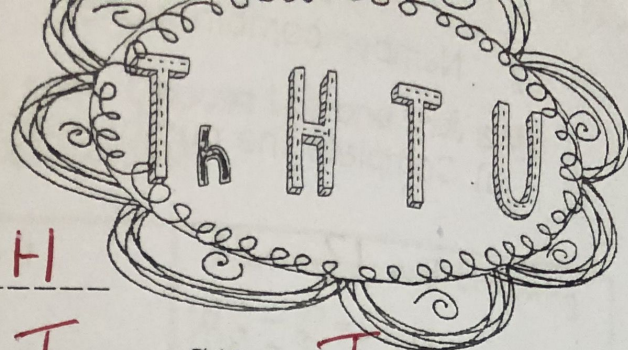
600
 $450 + 150$ < 700

10 < $99 \div 9$

76
 4×19 = $19 + 19 + 19 + 19$

~~100~~
 $88 + 22$ > 100
 110

What is the place value of the following underlined numbers:



$958 - \underline{H}$ $843 - \underline{T}$ $705 - \underline{H}$
 $699 - \underline{T}$ $1000 - \underline{H}$ $1023 - \underline{T}$ $912 - \underline{T}$
 $836 - \underline{U}$ $1008 - \underline{Th}$ $1484 - \underline{T}$ $1105 - \underline{Th}$

This allows us to conclude that the value of the place value indicates the position of a number.

b) What is the numerical values of the following underlined numbers:

$958 - \underline{900}$ $785 - \underline{5}$ $809 - \underline{800}$ $921 - \underline{1}$
 $819 - \underline{9}$ $1124 - \underline{100}$ $1221 - \underline{20}$ $383 - \underline{80}$
 $977 - \underline{70}$ $1008 - \underline{1000}$ $1484 - \underline{4}$ $1105 - \underline{1000}$

This allows us to conclude that the numerical value shows the value of a number.

c) Write the following numbers in the expanded form. $1111 = 1000 + 100 + 10 + 1$

$458 - \underline{400 + 50 + 8}$
 $907 - \underline{900 + 7}$ $696 - \underline{600 + 90 + 6}$
 $1005 - \underline{1000 + 5}$ $773 - \underline{700 + 70 + 3}$
 $1124 - \underline{1000 + 100 + 20 + 4}$

d) Complete the sums by filling in the correct answers.

$2Th + 3H + 4T + 5U = \underline{2347}$
 $8H + 0T + 3U = \underline{803}$ $4H + 9T + 5U = \underline{495}$
 $7T + 9T + 1U = \underline{161}$ $1Th + 1H + 0T + 7U = \underline{1107}$
 $3T + 9H + 4U = \underline{934}$ $4H + 22T + 2U = \underline{622}$
 $7H + 0T + 0U = \underline{700}$ $1Th + 0H + 5T + 11U = \underline{1061}$
 $6H + 7T + 9U = \underline{679}$

a) Complete the number sentences as quick as possible.

$18 + \underline{12} = 30$

$\underline{14} + 16 = 30$

$15 + 15 = \underline{30}$

$30 - 12 = \underline{18}$

$\underline{140} + 160 = 300$

$180 + \underline{120} = 300$

$150 + 150 = \underline{300}$

$300 - 120 = \underline{180}$

$30 - 14 = \underline{16}$

$30 - \underline{\quad} = 9$

$300 - 90 = \underline{210}$

$30 - \underline{16} = 14$

$300 - \underline{160} = 140$

$21 + \underline{9} = 30$

$90 + \underline{\quad} = 300$

b) Write the answers to the sums and explain in your own words what you observed.

$49 + 13 = \underline{62}$

$13 + 49 = \underline{62}$

My observation: You may add numbers in any order.

c) True (t) or False (f):

$(30 + 15) + 18 = 30 + (15 + 18)$

T

$9 - 6 = 6 - 9$

F

$58 - 20 = 38 + 20$

F

$(30 - 8) - 4 = 30 - (8 - 4)$

F

$49 + 13 = 13 + 49$

T

$58 - 58 = 16 - 16$

T

$10 + 10 + 10 + 10 = 400$

F

$12 + 12 = 6 + 6 + 6 + 6$

T

d) Write a number sentence (sum) for each.



$9 + 0 = 9$



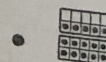
$0 + 4 = 4$



$0 + 9 = 9$



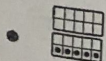
$3 + 10 = 13$



$5 + 10 = 15$



$8 + 10 = 18$



$0 + 5 = 5$



$6 + 10 = 16$

$165 = \square$

$- 100 + 60 + 5$

$- 50 + 30 + 2$

$= \underline{15}$

$45 \times 2 = \square$

$- (40 \times 2) + (5 \times 2)$

$- 80 + 10$

$= \underline{90}$

$85 \div 5 = \square$

$- (80 \div 5) - (5 \div 5)$

$- 16 + 1$

$= \underline{17}$

and subtraction

$38 = \square$

H T U

5 5 8

+ 323 8

796

v. $726 - 344 = \square$

H T U

6 2 6

- 3 4 4

382

$352 = \square$

H T U

8 6 4

- 3 5 2

512

vi. $621 + 212 = \square$

H T U

6 2 1

+ 2 1 2

833

$- 439 = \square$

H T U

7 6 13

- 4 3 9

334

vii. $725 - 628 = \square$

H T U

6 2 15

- 6 2 8

97

$6 + 429 = \square$

H T U

3 1 7 6

+ 4 2 9

805

viii. $562 + 198 = \square$

H T U

5 6 2

+ 1 9 8

760

1.8 Money

a) Convert the cents to Rand and cent. $1680c = \underline{R16,80}$

950c - R9,50
 1640c - R16,40
 2000c - R20,00

1510c - R15,10
 7999c - R79,99
 10000c - R100,00

1990c - R19,90
 20c - R0,20
 5c - R0,05

b) Do these operations with money as quick as you can.

R50 - R6 = R44 R5 + R17 + 40c = R22,40 8 x R15 = R120
 R5 - R2,50 = R2,50 R14 ÷ 2 = R7 60 x 20c = R12,00
 10 x 20c = R2,00 5 x 50c = R2,50 R7 - R3,50 = R3,50
 R100 - R75 = R25 50c + 20c + 80c = R1,50 R88 + R22 = R110

c) Complete the following operations. Look at the examples!

I have R75. I bought a new soccer ball for R56,60. How much do I have left?

Sum: $R75 - R56,60 = \square$
 $\rightarrow R75 - R56 = R19$
 $\rightarrow R19 - 60c = R18,40$

Remember: Always deduct the Rand first and then the cents! If you have to subtract the cents, borrow R1 (100c) from your Rand left over and then subtract the cents from that R1.
 E.g. I borrow R1 from R19, so now I have R18 left. R1 is the same as 100c. $100c - 60c$ is 40c. Thus R18,40 is my answer.

$\rightarrow R85 - R57,30 = \square$
 $\begin{array}{r} 7 \text{ } 14 \\ R85,00 \\ - R57,30 \\ \hline R27,70 \end{array}$

$\rightarrow R59 - R15,50 = \square$
 $\begin{array}{r} 8 \text{ } 10 \\ R59,00 \\ - R15,50 \\ \hline R43,50 \end{array}$

$\rightarrow R59 - R38,20 = \square$
 $\begin{array}{r} 8 \\ R59,00 \\ - R38,20 \\ \hline R20,80 \end{array}$

$\rightarrow R105 - R55,40 = \square$
 $\begin{array}{r} 9 \text{ } 14 \\ R105,00 \\ - R55,40 \\ \hline R49,60 \end{array}$

b) Double and halve

Double 435

$$\begin{array}{r} 435 \\ +435 \\ \hline 870 \end{array}$$

iv. Halve 689

$$\begin{array}{r} 344\frac{1}{2} \\ 2 \overline{)689} \end{array}$$

Halve 718

$$\begin{array}{r} 359 \\ 2 \overline{)718} \end{array}$$

v. Double 387

$$\begin{array}{r} 387 \\ +387 \\ \hline 774 \end{array}$$

ii. Double 406

$$\begin{array}{r} 406 \\ +406 \\ \hline 812 \end{array}$$

vi. Halve 952

$$\begin{array}{r} 476 \\ 2 \overline{)952} \end{array}$$

c) Multiplication and division

i. $56 \times 4 = \square$

$$\begin{array}{r} 50 \times 4 = 200 \\ 6 \times 4 = 24 \\ \hline 224 \end{array}$$

iv. $96 \div 6 = \square$

$$\begin{array}{r} 16 \\ 6 \overline{)96} \end{array}$$

ii. $91 \div 7 = \square$

$$\begin{array}{r} 13 \\ 7 \overline{)91} \end{array}$$

v. $69 \times 5 = \square$

$$\begin{array}{r} 60 \times 5 = 300 \\ 9 \times 5 = 45 \\ \hline 345 \end{array}$$

iii. $72 \times 6 = \square$

$$\begin{array}{r} 70 \times 6 = 420 \\ 2 \times 6 = 12 \\ \hline 432 \end{array}$$

vi. $115 \div 5 = \square$

$$\begin{array}{r} 23 \\ 5 \overline{)115} \end{array}$$

1.10 Problem solving:

Grandpa is 84 years old and Brother is 28 years old. What is the difference in age?

$$84 - 28 = \square$$

$$\begin{array}{r} 84 \\ -28 \\ \hline 56 \end{array}$$

56 years.

There are 56 girls in the Grade 4 class and 72 boys.

a) How many Grade 4 learners are there in total?

$$56 + 72 = \square$$

$$\begin{array}{r} 56 \\ +72 \\ \hline 128 \end{array}$$

128 learners.

b) How many more boys than girls are there?

$$72 - 56 = \square$$

$$\begin{array}{r} 72 \\ -56 \\ \hline 16 \end{array}$$

16 more boys.

Four friends share 9 sweets.

a) How much does each one get and how many is left?

$$9 \div 4 = 2 \text{ r } 1$$

Each friend gets two, one sweet is left.

b) If they share the sweets equally amongst them without any left, how many will each friend get?

$$9 \div 4 = 2 \frac{1}{4}$$

$2 \frac{1}{4}$.

Jimmy has 239 marbles. Pieter has 472. How many do they have altogether?

$$239 + 472 = \square$$

$$\begin{array}{r} 239 \\ +472 \\ \hline 711 \end{array}$$

711 marbles.

They lose 378 marbles against Fanie. What do they have now?

$$711 - 378 = \square$$

$$\begin{array}{r} 711 \\ -378 \\ \hline 333 \end{array}$$

333 marbles.

I created a vegetable garden. I planted 9 seeds in twelve rows. How many seeds did I plant?

$$9 \times 12 = \square$$

$$\begin{array}{r} 10 \times 9 = 90 \\ 2 \times 9 = 18 \\ \hline 108 \end{array}$$

108 seeds.

The snails had eaten half of my seeds. How much do I have left?

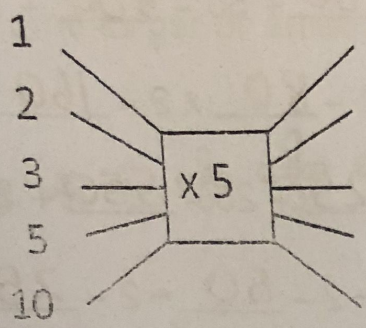
$$108 \div 2 = \square$$

$$\begin{array}{r} 54 \\ 2 \overline{)108} \end{array}$$

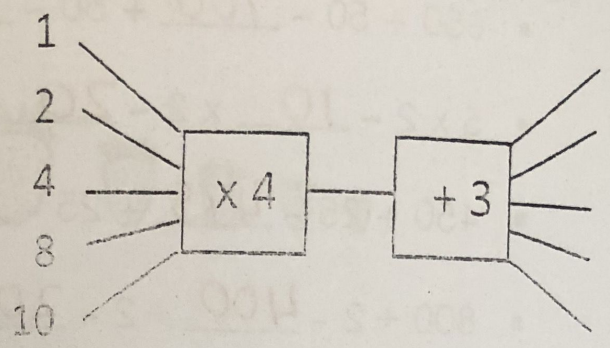
54 seeds.

Numerical (number) pattern

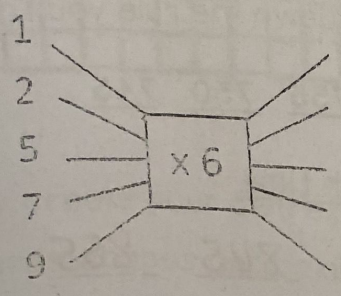
Complete each flowchart and its table. Think carefully!



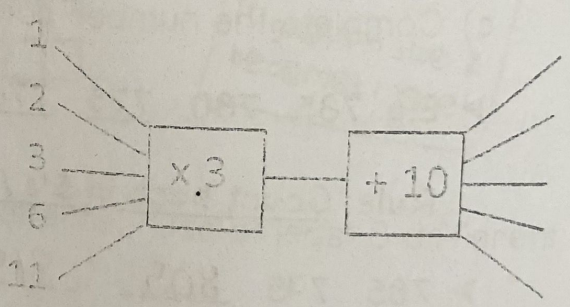
input	1	2	3	5	10
output	5	10	15	25	50



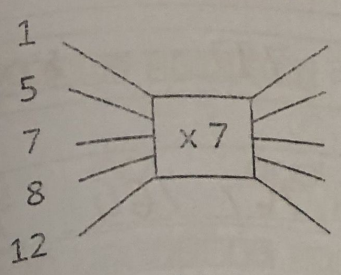
Rule	input	1	2	4	8	10
$\times 4 + 3$	output	7	11	19	27	43



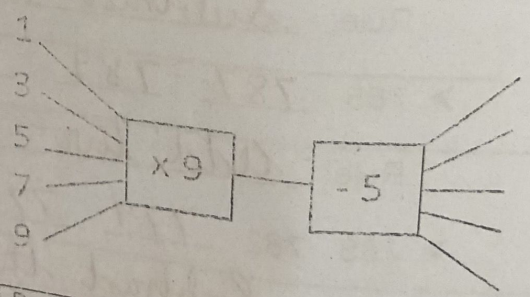
Rule	input	1	2	5	7	9
$\times 6$	output	6	12	30	42	54



Rule	input	1	2	3	6	11
$\times 3 + 10$	output	13	16	19	28	43



Rule	input	1	5	7	8	12
$\times 7$	output	7	35	49	56	84



Rule	input	1	3	5	7	9
$\times 9 - 5$	output	4	22	40	58	76

b) Fill in the missing numbers.

- $130 + 50 - \underline{180} + 50 - \underline{230} + 50 - \underline{280} + 50 - \underline{330} + 50 = \underline{380}$
- $1 \times 2 - \underline{2} \times 2 - \underline{4} \times 2 - \underline{8} \times 2 - \underline{16} \times 2 - \underline{32} \times 2 = \underline{64}$
- $950 - 100 - \underline{850} - 100 - \underline{750} - 100 - \underline{650} - 100 - \underline{550} - 100 = \underline{450}$
- $650 + 50 - \underline{700} + 50 - \underline{750} + 50 - \underline{800} + 50 - \underline{850} + 50 = \underline{900}$
- $5 \times 2 - \underline{10} \times 2 - \underline{20} \times 2 - \underline{40} \times 2 - \underline{80} \times 2 - \underline{160} \times 2 = \underline{320}$
- $450 + 25 - \underline{475} + 25 - \underline{500} + 25 - \underline{525} + 25 - \underline{550} + 25 = \underline{575}$
- $800 \div 2 - \underline{400} \div 2 - \underline{200} \div 2 - \underline{100} \div 2 - \underline{50} \div 2 - \underline{25} = \underline{111}$
- $1 \times 3 - \underline{3} \times 3 - \underline{9} \times 3 - \underline{27} \times 3 - \underline{71} \times 3 - \underline{213} \times 3 = \underline{639}$
- $1000 - 200 - \underline{800} + 100 - \underline{900} - 200 - \underline{700} + 100 - \underline{800} = \underline{111}$

c) Complete the number patterns and write down the rule you followed.

➤ E.g. 785 780 775 770 765 760 755 750 745

Rule: Count back in 5's / subtract 5 each time

➤ 785 795 805 815 825 835 845 855 865 875

Rule: Add ten

➤ 1085 985 885 785 685 585 485 385 285 185

Rule: Subtract 100

➤ 785 787 789 791 793 795 797 799 801 803

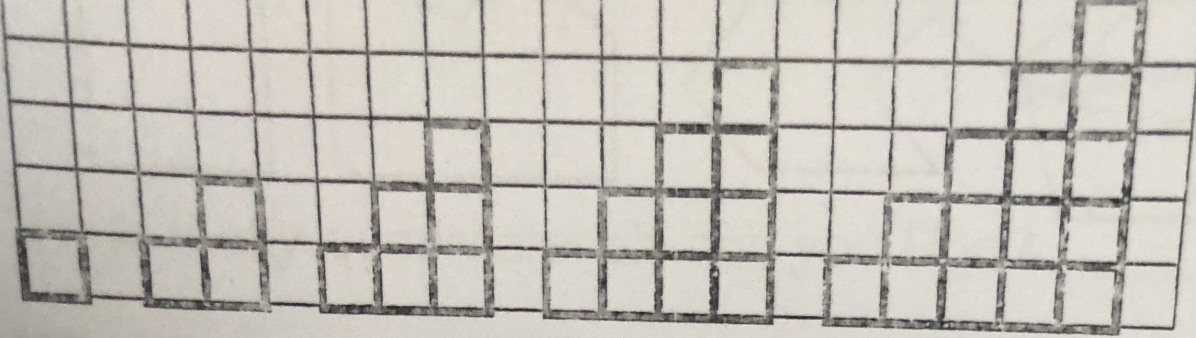
Rule: Add two

➤ 785 782 779 776 773 770 767 764 761 ~~758~~

Rule: Subtract three

➤ 1085 1065 1045 1025 1005 985 965 945 925 905

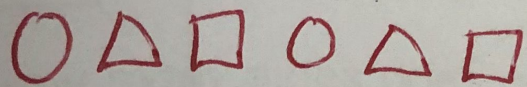
Rule: Subtract 20



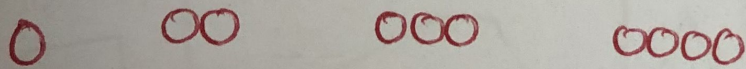
o Re
It grow
became

Now create your own examples of the patterns. Use at least figures/shapes and colours.

repeating pattern



growing pattern



size changing pattern

