

# Divide 998001 by 999

1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9
1/9>1+1	2/9>2+2	3/9>3+3	4/9>4+4	5/9>5+5	6/9>6+6	7/9>7+7	8/9>8+8

Divide by 9 rules

$$9/9 > 9+9$$

### Rule for multi digit divisor

9 9 8 0 0 1
9 9 9

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ABCDEFGHIJKLM

Enter dividend 998001 in A-F

Optionaly, enter divisor 999 in K-M

Diagram illustrating a number system with 13 columns (A through M) and 2 rows. The top row is labeled A through M. The bottom row is labeled A through M. The values for each column are: A=9, B=18, C=8, D=0, E=0, F=1, G=9, H=9, I=9. The grid contains dots and vertical lines. Column A has 9 dots. Column B has 18 dots (9 in the top row, 9 in the bottom row). Column C has 8 dots (4 in the top row, 4 in the bottom row). Column D has 0 dots. Column E has 0 dots. Column F has 1 dot in the top row. Column G has 9 dots. Column H has 9 dots. Column I has 9 dots. Column J has 9 dots. Column K has 9 dots. Column L has 9 dots. Column M has 9 dots. The bottom row is labeled A through M. The value for column A is 9. The value for column B is 18. The value for column C is 8. The value for column D is 0. The value for column E is 0. The value for column F is 1. The value for column G is 9. The value for column H is 9. The value for column I is 9.

9	9	8	9	0	1	9	9	9				
A	B	C	D	E	F	G	H	I	J	K	L	M

Subtract  $A \times M = 9 \times 9 = 81$  from CD

9	9	17	9	0	1	9	9	9				
A	B	C	D	E	F	G	H	I	J	K	L	M

Focus on B and use rule:  
 $9/9 > 9+9$

i.e change 9 in B to 9 (nothing to do) and add 9 to C, which leads to next diagram

9	9	9	8	0	1	9	9	9				
A	B	C	D	E	F	G	H	I	J	K	L	M

Subtract  $B \times L = 9 \times 9 = 81$  from CD

9	9	8	9	9	1	9	9	9				
A	B	C	D	E	F	G	H	I	J	K	L	M

Subtract  $B \times M = 9 \times 9 = 81$  from DE

<div> <div>9 9 8 17 9 1</div> <div>9 9 9</div> </div> <div> </div> <div> <div>A B C D E F G H I J K L M</div> </div>	<p>Focus on C and use rule:  <math>8/9 &gt; 8+8</math></p> <p>i.e change 8 in C to 8 (nothing to do) and add 8 to d, which leads to next diagram</p>
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<div> <div>9 9 8 10 7 1</div> <div>9 9 9</div> </div> <div> </div> <div> <div>A B C D E F G H I J K L M</div> </div>	<p>Subtract <math>C \times L = 8 \times 9 = 72</math> from DE</p>
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<div> <div>9 9 8 9 9 9</div> <div>9 9 9</div> </div> <div> </div> <div> <div>A B C D E F G H I J K L M</div> </div>	<p>Subtract <math>C \times M = 8 \times 9 = 72</math> from EF</p>
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<div> <div>9 9 9</div> <div>9 9 9</div> </div> <div> </div> <div> <div>A B C D E F G H I J K L M</div> </div>	<p>Revise up: add 1 to C and subtract 999 from DEF</p> <p>Remainder in DEF is zero, so that</p> <p><math>998001/999 = 999</math></p> <p>Done!</p>
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