

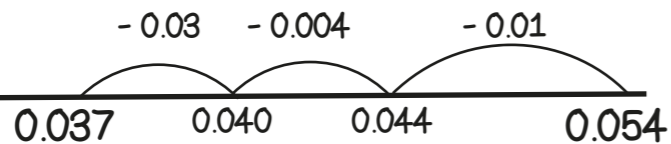


0.9 - 0.4, 100 - 65  
 Number facts  
 Single digit decimals  
 Halves  
 Bonds of 1 and 100

I just knew it!

Rapid fluency of  
 2 digit subtract  
 2 digit numbers

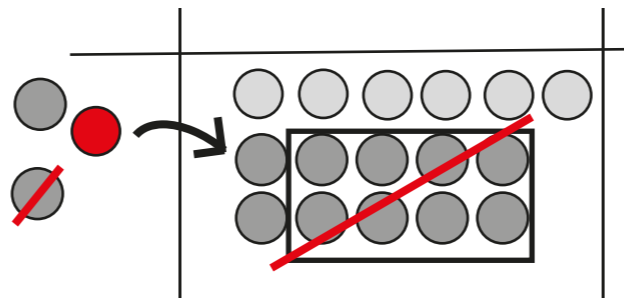
0.054 - 0.017  
 Bridge through boundaries  
 by counting in efficient steps



36 - 18 = 18  
 Use known facts

If I know 36 - 18 = 18  
 then I know  
 3.6 - 1.8 = 1.8

36,000 - 18,000 = 18,000  
 360,000 - 180,000 = 180,000  
 3,600,000 - 1,800,000 = 1,800,000



400,032 - 30,005  
 Use place value to subtract

5 less than 32 is 27

400,000 = 4 hundreds of thousands  
 or 400 thousands  
 400 - 30 = 370 so **400,000 - 3,000 = 370,000**

400,032 = 400 thousands and 32 ones  
 take away 30 thousands and 5 ones  
 = 370,027

How shall I subtract?



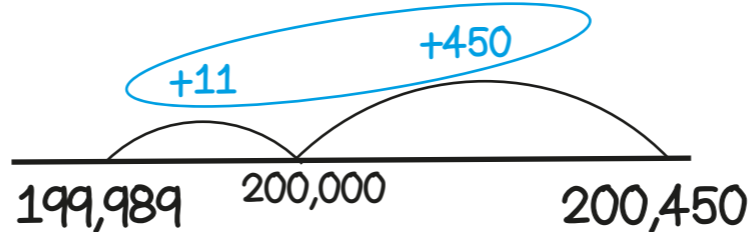
445,748 - 126,374  
 Formal written method

Exchange ten of  
 these for one of  
 those!

$$\begin{array}{r} 445,748 \\ + 126,374 \\ \hline 319,374 \end{array}$$

Regroup and rename

200,450 - 199,989  
 Find the difference between  
 two numbers

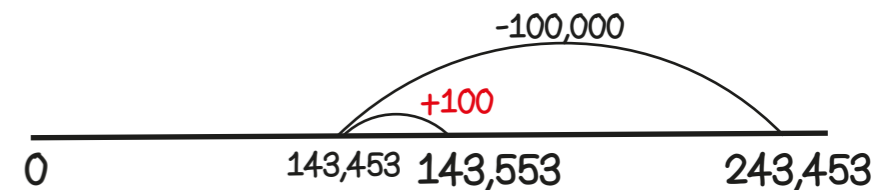


200,450	
199,989	461

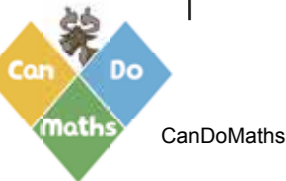
243,453 - 99,900  
 Round then adjust

100,000s	10,000s	1000s	100s	10s	1s
1	2	3	4	5	3
<del>1</del>	2	3	3	4	3
			1	5	3

Take away **100,000** then **add 100**



100,000s	10,000s	1000s	100s	10s	1s



Known facts:  
Rapid recall of all multiplication tables up to 12 x 12

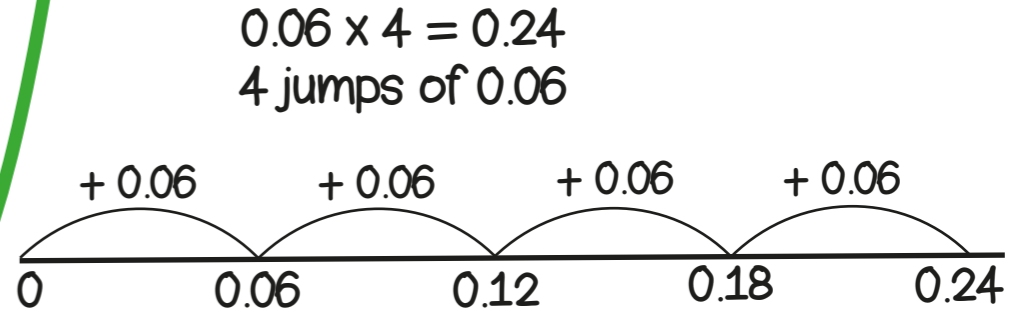
6 x 4  
Use known facts and place value

40 is ten times greater than 4

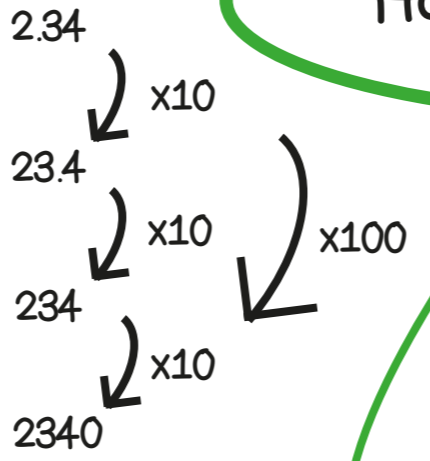
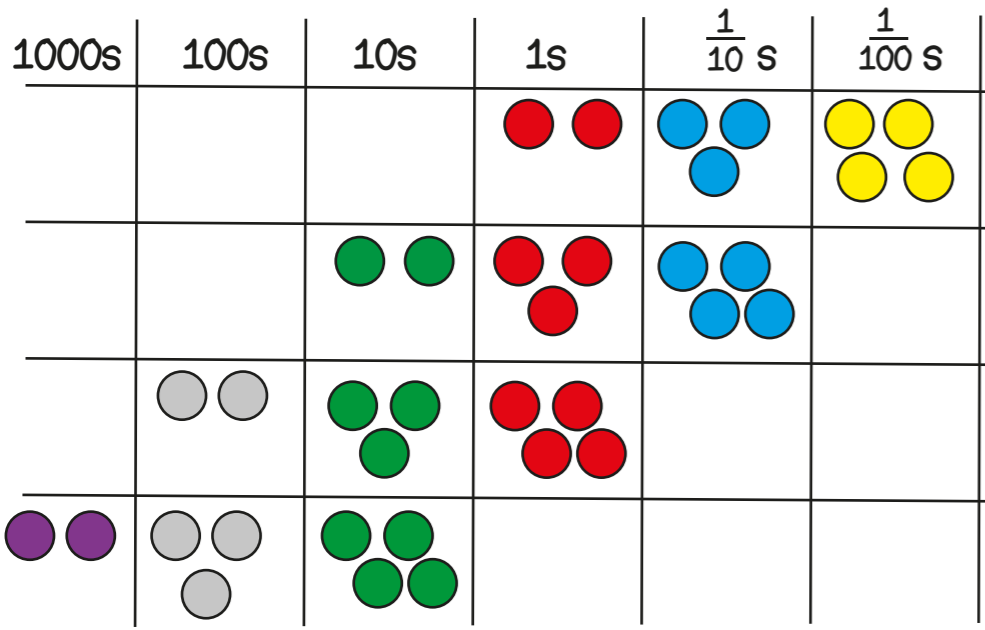
0.6 is ten times smaller than 6

6 x 4  
Use known facts and place value

60 x 40 = 2400  
600 x 400 = 240,000  
6000 x 4000 = 24,000,000

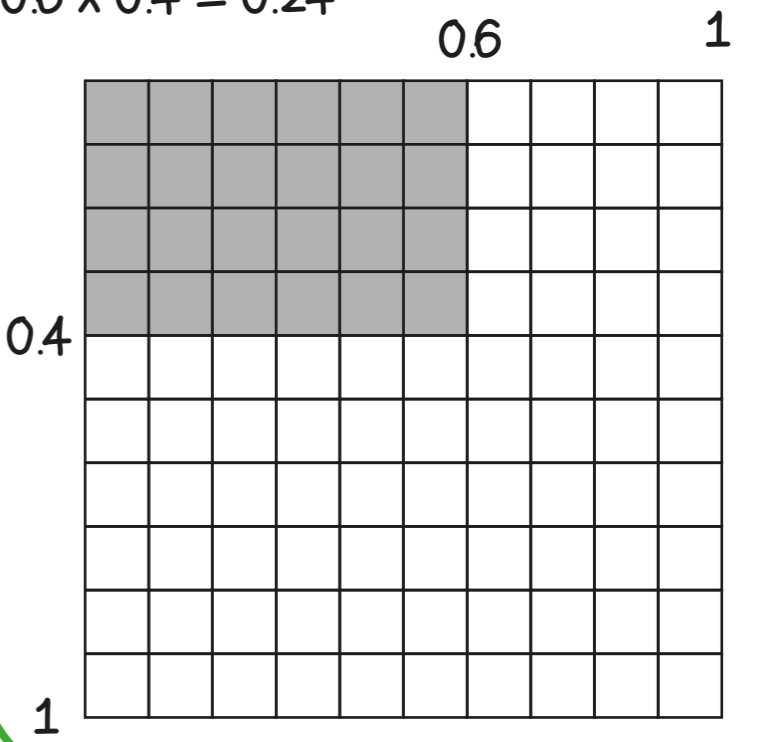


2.34 x 1000  
Multiply by 10, 100, 1000



How shall I multiply?

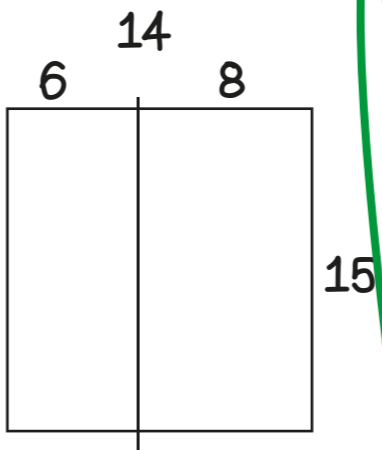
0.6 x 0.4 = 24 hundredths  
0.6 x 0.4 = 0.24



15 x 42  
Using factors and distributive law

15 x 48  
Factor pair  
= 15 x 6 x 8  
= 90 x 8  
= 720

15 x 14  
= 15 x 6 + 15 x 8  
= 90 + 120  
= 210



2427 x 38  
Formal written method

$$\begin{array}{r} 2427 \\ \times 38 \\ \hline 19416 \\ 72810 \\ \hline 92226 \end{array}$$

4203 x 4  
Partition and recombine

4203 x 4

4000	200	3	
x4	x4	x4	
16,000	800	12	= 16,812

